

**POPULATION ESTIMATES FOR PEARY
CARIBOU AND MUSKOX ON BANKS ISLAND
NT, JULY 2005**



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ABSTRACT

A stratified strip transect aerial survey was conducted on Banks Island, NT during 24 July to 1 August 2005 to document the numbers and distribution of Peary caribou (*Rangifer tarandus pearyi*) and muskox (*Ovibos moschatus*).

We observed 172 non-calf and 46 calf caribou on transect giving estimates of 929 ± 289 (95% CI) non-calf and 251 ± 104 (95% CI) calf caribou. Approximately 19.4% of the caribou observed were calves. Overall there were 0.013 non-calf caribou per km² on the island. The estimates of the numbers of non-calf and calf caribou in the population did not change significantly between 2001 and 2005. However, a comparison of the mean non-calf population estimates suggests that the population declined. The lack of growth in the population was likely a residual effect of the icing event that occurred on Banks Island during winter 2003–2004. The results of this survey indicate that the bull only quota (in effect since 1992) has not had a negative impact on the bull component of the population based on the number of bulls observed in 2005, nor has it had a negative impact on productivity based on the number of calves observed per 100 non-calf caribou in 2005.

We observed 9,274 non-calf and 974 calf muskoxen on transect giving estimates of $47,209 \pm 3,997$ (95% CI) non-calf and $4,924 \pm 537$ (95% CI) calf muskoxen.

Approximately 9.5% of the muskoxen observed on transect were calves. The estimates of the numbers of non-calf and calf muskoxen decreased significantly during 2001 to 2005, with the non-calf estimates declining to levels

observed in 1998. This primary cause of this decline was most likely the icing event that occurred on Banks Island during winter 2003–2004.

We observed fewer wolves in 2005 than in 2001. Whether this decrease in the number of sightings reflects a decline in the number of wolves on the island is not known.

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INTRODUCTION

The history of the Peary caribou and muskox population on Banks Island has been well documented (Nagy *et al.*, 1996; Nagy *et al.*, 1998). Between 1972 and 1989, five whole island surveys had been conducted to document the number of caribou and muskoxen on the island (Urquhart, 1983; Latour, 1985; Nagy *et al.*, 2007a; McLean *et al.*, 1986; McLean, 1992; McLean and Fraser 1992). Between 1972 and 1992, the Peary caribou population declined from about 12,000 to 2,600 non-calf animals, respectively, while the muskox population increased from about 3,800 to about 34,300 non-calf animals (Urquhart, 1983; Latour, 1985; Nagy *et al.*, 2007a; McLean *et al.*, 1986; McLean, 1992; McLean and Fraser, 1992).

Because of the "endangered" status of Peary caribou and the importance of Peary caribou and muskox to the community of Sachs Harbour (subsistence and commercial harvest), the Department of Environment and Natural Resources established a plan in the early 1990s to continue to survey these population every two to four years to monitor their status (McLean, 1992; McLean and Fraser, 1992; Nagy *et al.*, 2007b; Nagy *et al.*, 2007c; Nagy *et al.*, 2007d; Nagy *et al.*, 2007e; Nagy *et al.*, 2007e). Surveys conducted between 1989 and 1998 indicated that Peary caribou population continued to decline between 1989 and 1992 (Nagy *et al.*, 2007b), appear to be stable between 1992 and 1994 (Nagy *et al.*, 2007c), declined between 1994 and 1998 (Nagy *et al.*, 2007d), and increased between 1998 and 2001 (Nagy *et al.*, 2007e). The muskox population continued to increased between 1989 and 1994 (Nagy *et al.*, 2007b; Nagy *et al.*, 2007c),

declined between 1994 and 1998 (Nagy *et al.*, 2007d), and increased between 1998 and 2001 (Nagy *et al.*, 2007e). The declines in the number of non-calf caribou and muskoxen on the island between 1994 and 1998 may have been a residual effect of the icing event that occurred on Banks Island during winter 1993–1994 (Larter and Nagy, 1994). The decline in the number of non-calf muskox may have also been driven by density dependent population regulatory effects.

A stratified strip transect aerial survey designed to obtain population estimates for and Peary caribou and muskox on Banks Island was conducted during 24 July to 1 August 2005 with the following objectives:

- to obtain estimates of the number of non-calf and calf caribou and muskoxen,
- to determine the status of the Peary caribou and muskox population,
- to document observations of wolves and den sites,
- to document the distribution of caribou and muskoxen,
- to recommend whether the current quotas for caribou and muskoxen are sustainable, and
- if necessary, recommend management options to facilitate recovery of the Peary caribou population.

This report summarizes the results of the survey completed on Banks Island during July/August 2005.

METHODS

In order to conduct a strip transect survey, we partitioned Banks Island into survey blocks of a size that transect lines, when oriented to intersect major river systems and drainages at approximately a 90° angle, could be flown in about 20 to 25 minutes (Figures 1 and 2). This was done to minimizing observer fatigue. All survey blocks were flown at 20% coverage (transects spaced at 5-km intervals).

In preparation for the survey, we downloaded rasterized versions of the 1:250,000 NTS map sheets covering Banks Island from Toporama http://toporama.cits.mcan.gc.ca/toporama_en.html. These were appended using PCI Geomatica software (Geomatica software Geomatica) to create a single raster covering the entire study area. We also created a transect line raster and added it to the 1:250,000 NTS raster using Geomatica software. The resulting digital map was imported into OziExplorer GPS software (OziExplorer GPS Mapping Software). Ozi Explorer is a computer software package that is designed to upload and download waypoint and track files from a GPS. We used OziExplorer to create waypoints at the start and end of each transect and gave each of these a unique identification number. These were stored in a digital database on a laptop computer.

Shape files were created for each survey block so that total area of each could be measured using ArcView 3.2 GIS software (Environmental Systems Research Institute). The specifications of the projection used are as follows:

Lambert Conformal Conic, NAD83, Central Meridian: 123.0 W, Latitude of Origin: 73.0 N, SP1: 72.0 N, SP2: 74.0 N.

The survey crews were comprised of a pilot, two observers seated in the back of the aircraft (Helio Courier and Cessna 185), and a recorder seated in the right front seat. Survey crews were equipped with a laptop computer with OziExplorer, a digital map of the survey area, and the digital transect waypoint database installed. Each day we used OziExplorer to download the waypoints of the transect end points from the laptop to the GPS of the aircraft. The pilot used these waypoints to navigate to the start and end points of each transect using the GPS of the aircraft. The aircraft flew at an altitude of 100 m above ground level and airspeed of 160 km/h.

Caribou were counted within and outside of the boundaries of a 500-m wide strip on each side of the aircraft. Muskoxen were counted within the strip. Strip width was marked using wooden dowels taped to the wing struts (Cessna 185) or tape marker on a wire stretched between the tie-down rings and the fuselage (Helio Courier) using the formula:

$$w = W \times h \div H$$

where w is the calculated strip width on the ground, W is the chosen survey strip width, h is the height of the observer on the ground, and H is the chosen survey altitude (Norton-Griffiths, 1987). All sightings of wolves were recorded.

The recorder had a Garmin 12XL GPS equipped with an external antenna mounted on the windscreen of the aircraft. The recorder created a waypoint for each caribou, muskox, and wolf observation and recorded the number of the

waypoint and the number and types of caribou, muskoxen, and wolves observed at each waypoint. At the end of each day the waypoint files were downloaded to the laptop computer. The files were then imported into Microsoft Excel and the waypoint coordinate data (number, latitude and longitude coordinates, date and time) and were appended to the observation data. We used the GPS to create a track file of all transects flown (location recorded every 30 seconds). The track files were down loaded to the laptop computer at the end of each flight.

Caribou were classified as adults (cows and yearlings), bulls, calves, or unknown. Muskoxen were classified as adults (age ≥ 1 year) and calves. Observers were equipped with binoculars to help ensure that counts and classifications were done accurately. If an observer had difficulty, the pilot flew the aircraft off transect and flew in a tight circle around the caribou or muskoxen, so that an accurate count and classification could be done. The pilot then flew the aircraft back to the transect and the survey resumed.

The waypoints and track files for all observations made along each transect line within each block were mapped using OziExplorer. All observations that were recorded before the starting point and after the end point of each transect were deleted. Only caribou that were observed off transect between transect lines within a survey block were included in the analyses. This was done to minimize the probability of including individuals/groups of caribou in the analyses more than once. The numbers of non-calf and calf caribou and muskoxen observed on and off transect for each transect were summarized using Microsoft Excel. The length of each transect was derived using the

waypoints for the start and end of each transect and the route function in OziExplorer.

The population estimates and associated statistics were calculated using the Aerial2 version 3.0 method 2 (Krebs, 1999). Estimates for non-calf, calf, and all caribou and muskoxen, respectively, were derived for each survey block. Population and variance estimates from each stratum were combined to derive an overall population and population variance estimate for non-calf, calf, and all caribou and muskoxen, respectively, in all survey blocks.

The estimation of population number and variance from stratified surveys is given in Compton *et al.* (1995) cited by Johnson *et al.* (2004). The total population number is the summation of individual strata estimates (equation 1):

$$\hat{N}_{total} = \sum_{h=1}^L \hat{N}_h$$

where there are L strata units. Assuming that the selection of sample units within each strata is independent of other strata units, the variance is estimated as the sum of individual variance estimates for each strata (equation 2):

$$\text{var}_{total} = \sum_{h=1}^L \text{var}_h$$

Confidence intervals for the population estimate can be approximated by (equation 3):

$$\hat{N}_{total} \pm t \sqrt{\text{var}_{total}}$$

The degrees of freedom (d) for the t-statistic can be approximated by the following formula (equation 4):

$$d = \frac{\left(\sum_{h=1}^L a_h s_h^2 \right)^2}{\left[\sum_{h=1}^L \left((a_h s_h^2)^2 / (n_h - 1) \right) \right]}$$

where $a_h = N_h(N_h - n_h)/n_h$ where N_h is the possible number of transects in an individual block and n_h is the actual number of transects flown. The sample variance from each block is denoted as s^2 in the above formula, and L is the total number of strata (Compton *et al.*, 1995) cited by Johnson *et al.* (2004). This assumes that the population estimates and variance estimates from each stratum are unbiased and independent.

We used a two-tailed t-test to determine whether the estimates of the non-calf and calf caribou and muskoxen in 2005 were significantly different from those in 2001. We calculated the t-statistic (t^2) using the following formula (equation 5) (from Section 4.2.1.2, page 62, Gasaway *et al.*, 1986):

$$t^2 = (T_{2005} - T_{2001})^2 / [V(T_{2005}) + V(T_{2001})]^{0.5}$$

where:

T_{2005} and T_{2001} = population estimates of non-calf and calf caribou and muskox from surveys in 2005 and 2001, respectively

$V(T_{2005})$ and $V(T_{2001})$ = variances of population estimates of non-calf and calf caribou and muskoxen from surveys in 2005 and 2001, respectively

We used the following formula to estimate the total degrees of freedom (v_t) associated with the t-statistic (equation 6) (from Section 4.2.1.2, page 62, Gasaway *et al.*, 1986):

$$[V(T_{2005}) + V(T_{2001})]^2 / \{ [V(T_{2005})^2 / v_{o2005}] + [V(T_{2001})^2 / v_{o2001}] \}$$

where:

- $V(T_{2005})$ and $V(T_{2001})$ = variances of population estimates of non-calf and calf caribou and muskox from surveys in 2005 and 2001, respectively
- v_{o2005} and v_{o2001} = degrees of freedom from surveys in 2005 and 2001, respectively (derived from equation 4).

Maps showing the distribution of caribou observed on and off transect, muskoxen observed on transect, and wolves on Banks Islands were created using ArcView (Environmental Systems Research Institute).

RESULTS

The survey was completed during 24 July to 1 August 2005 on Banks Islands. Weather conditions were generally moderate to poor with periods of low cloud, fog, and rain during the survey period. All transect lines were flown as planned except for portions of 11 lines in survey block A (Figure 3). Persistent fog and low cloud prevented us from surveying the coastal portions of these transects.

Peary caribou

The distribution of non-calf and calf Peary caribou observed during the survey is shown in Figures 4 and 5, respectively. We observed a total of 172 non-calf and 46 calf caribou on transect giving estimates of 929 ± 289 (95% CI) non-calf and 251 ± 104 (95% CI) calf caribou on the island (Table 1). Overall

there were 0.013 non-calf caribou per km² on the island. The 2005 estimate of non-calf caribou was not significantly different than that reported for 2001 (Nagy *et al.*, 2007e) ($t^2 = 1.014$, 50 df, $P > 0.05$). Similarly, the estimate of calf caribou was not significantly different from that reported for 2001 (Nagy *et al.*, 2007e) ($t^2 = 1.559$, 35 df, $P > 0.05$). A comparison of the mean population estimates for 2001 and 2005 indicates that the caribou population decreased at an annual finite rate of 23% (Caughley, 1980).

We observed a total of 228 non-calf and 55 calf caribou on and off transect giving a ratio of 24.1 calves per 100 cows. Approximately 19.4% of the caribou observed were calves. The majority of these caribou (86 non-calf) and (26 calves) were found on the northwestern portion of the island in survey block A (Table 1 and Figures 4 and 5).

We observed 65 mature bulls (54 on transect and 11 off transect) or 29% of all non-calf caribou observed. At 20% survey coverage, this indicates that there may be approximately 270 bulls (54 X 5) in the population. This indicates that the bull-only quota that has been in effect since 1992 has not had a negative impact on the bull segment of the population, nor has it had a negative impact on productivity based on the number of calves observed per 100 non-calf caribou.

We found no evidence of mortalities.

Muskox

The distribution of non-calf and calf muskoxen observed during the survey is shown in Figures 7 and 8, respectively. We observed a total of 9,274 non-calf

and 974 calf muskoxen on transect giving estimates of $47,209 \pm 3,997$ (95% CI) non-calf and $4,924 \pm 537$ (95% CI) calf muskoxen on the island (Table 2). Overall there were 0.669 non-calf muskoxen per km^2 on the island, with densities exceeding one non-calf muskox per km^2 in south western Banks Island (includes the Egg and Massik river drainages). Approximately 9.5% of the muskoxen observed on transect were calves. There were 10.5 calves per 100 non-calf muskoxen.

The 2005 estimate of non-calf muskoxen was significantly lower than that reported for 2001 (Nagy *et al.*, 2007e) ($t^2 = 5.373$, 67 df, $P < 0.001$). Similarly, the 2005 estimate of calf muskoxen was significantly lower than reported for 2001 (Nagy *et al.*, 2007e) ($t^2 = 10.541$, 56 df, $P < 0.001$). There was a significant decline in the number of non-calf and calf muskoxen on the island between 2001 and 2005. A comparison of mean population estimates for 2005 and 2001 (Nagy *et al.*, 2007e) indicates that the non-calf muskox population decreased at an annual finite rate of 17% per year during this period (Caughley, 1980) (Figure 9).

We did not document the distribution of dead muskoxen because of the large number of carcasses observed during summer 2004 (Nagy and Gunn, 2004) following the icing event that occurred on Banks Island during winter 2003–2004.

Wolves

We observed a total of 28 wolves. The majority of these were found in areas with high densities of muskoxen on the northern portion of the island in survey block H (Figure 10).

DISCUSSION

The results of our survey indicate that there were approximately 929 ± 289 (95% CI) non-calf and 251 ± 104 (95% CI) calf caribou on Banks Island ($70,583 \text{ km}^2$) in July 2001. The 2005 and 2001 estimates for non-calf and calf caribou were not significantly different. The lack of growth in the population was likely a residual effect of the icing event that occurred on Banks Island during winter 2003–2004.

The majority of the Peary caribou in early July are typically found on the post-calving ranges on the extreme northwestern portion of Banks Island. The majority of caribou observed during the July 2005 survey were found in this area. There were approximately $47,209 \pm 3,997$ (95% CI) non-calf and $4,924 \pm 537$ (95% CI) calf muskoxen on Banks Island in July 2005. Overall there were 0.669 non-calf muskoxen per km^2 on the island, with densities exceeding 1 muskox per km^2 on southwestern portion of the island (includes Egg and Massik river drainages) and in the Thomsen River drainage. This is consistent with previous observations. Population changes documented during the period 1994 to 2005 suggest that maximum carrying capacity of Banks Island is between 65,000 and

70,000 non-calf muskoxen, and that the number of non-calf muskoxen on the island will fluctuate between approximately 45,000 and 70,000 animals over time.

We observed 2, 23, 26, and 40 wolves during the surveys conducted in 1992, 1994, 1998, and 2001, respectively. In 2005 we observed 28 wolves. Whether this decrease in the number of sightings reflects a decline in the number of wolves on the island is not known. Most of the wolves were observed areas of high densities of muskoxen (Thomsen River drainage). This is consistent with observations made in 2001.

The results of this survey indicate that the bull-only quota for Peary caribou that has been in effect since 1992 has not had a negative impact on the bull segment of the population, nor has it had a negative impact on productivity based on the number of calves observed per 100 non-calf caribou in 2005.

ACKNOWLEDGEMENTS

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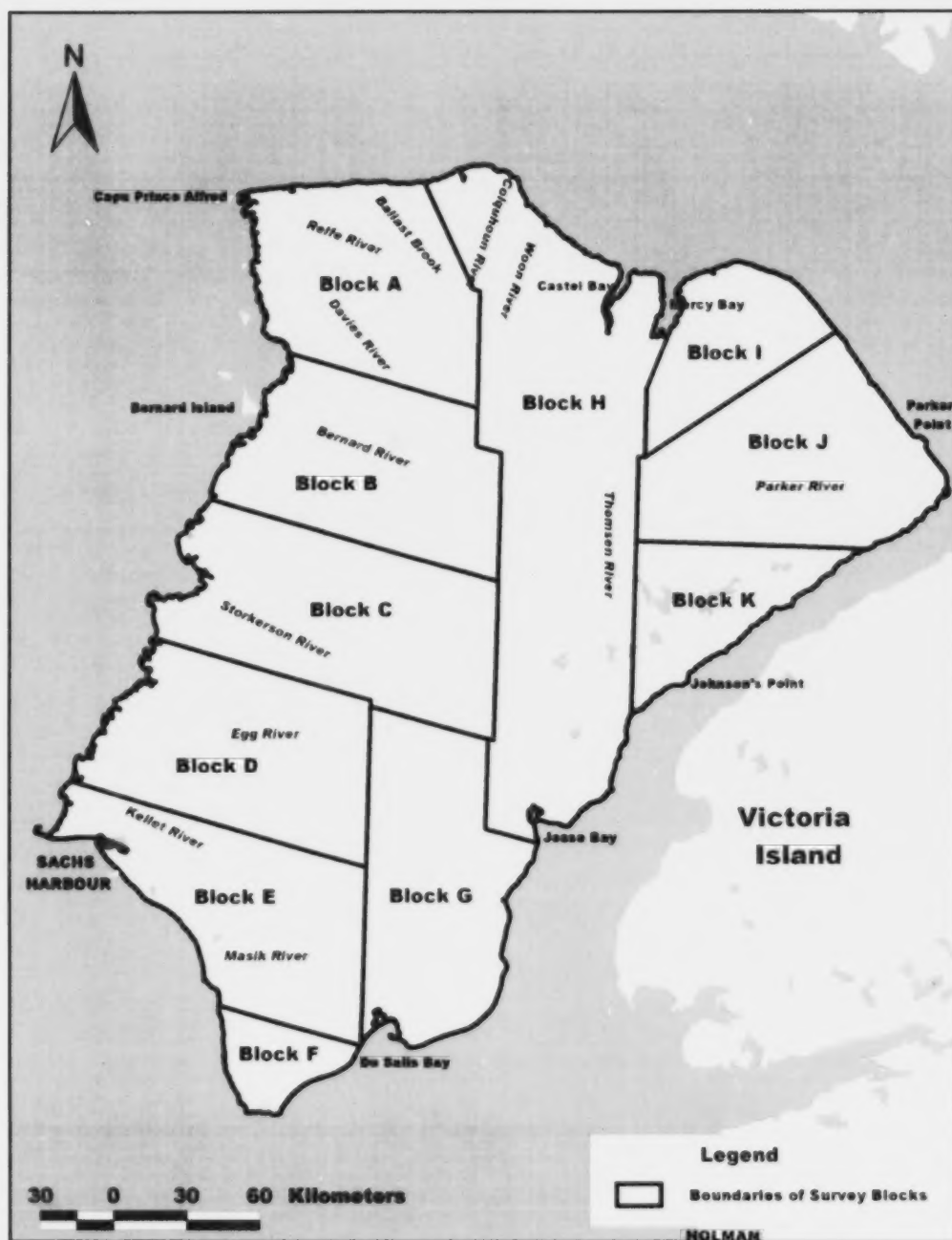


Figure 1. Location of survey blocks for the July 2005 Banks Island Peary caribou and muskox survey.



Figure 2. Distribution of survey blocks and transect lines for the July 2005 Banks Island survey as planned.

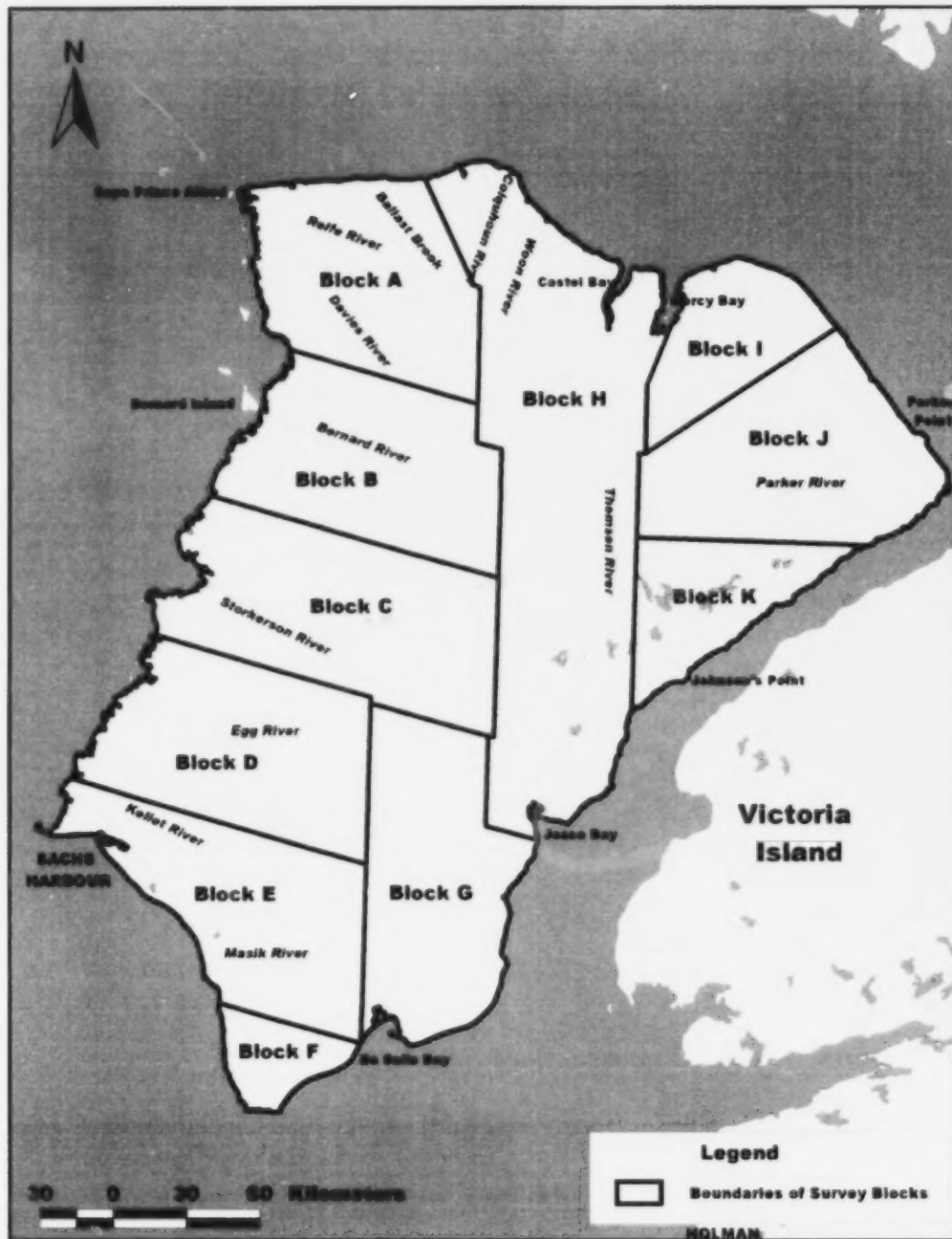


Figure 1. Location of survey blocks for the July 2005 Banks Island Peary caribou and muskox survey.

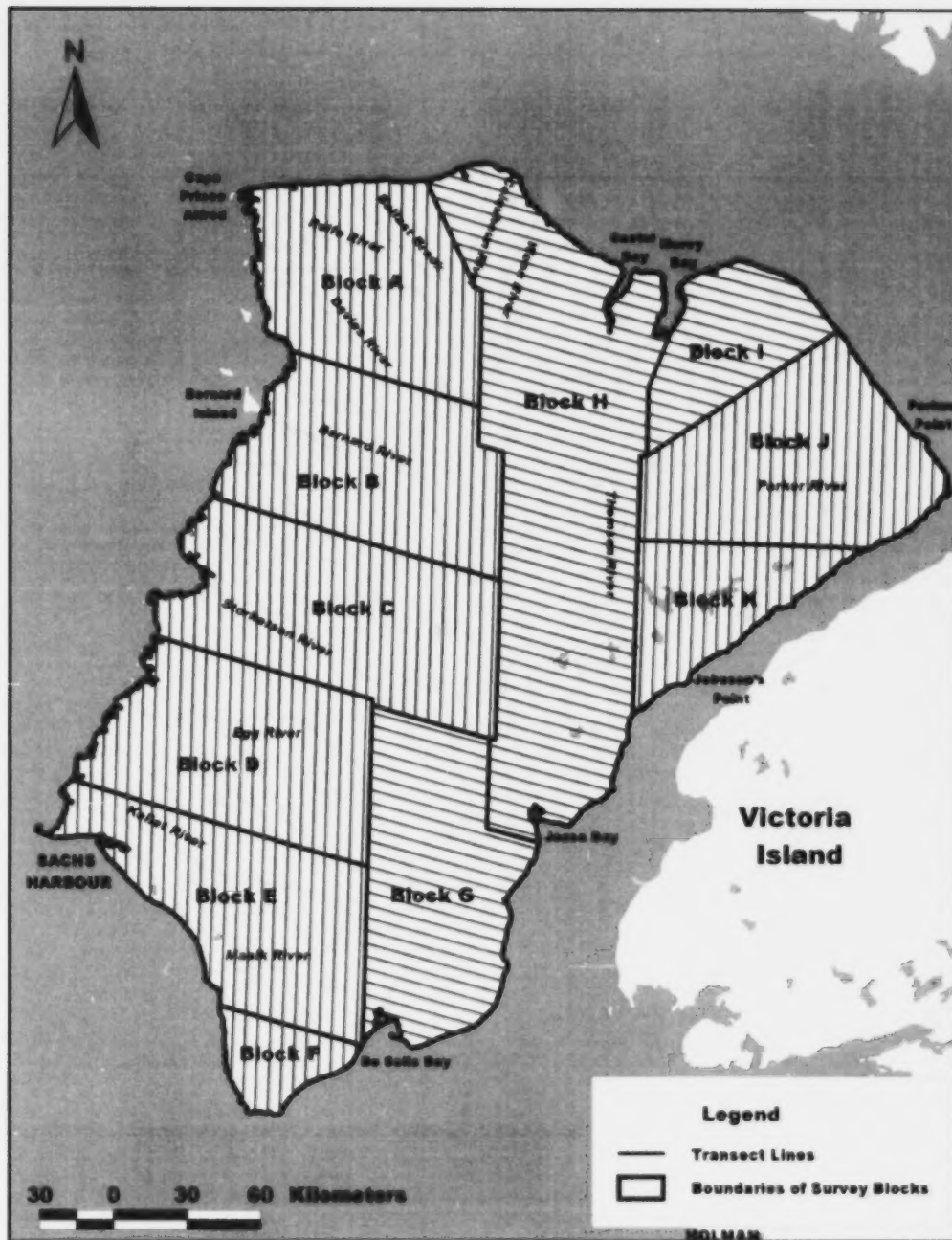


Figure 2. Distribution of survey blocks and transect lines for the July 2005 Banks Island survey as planned.

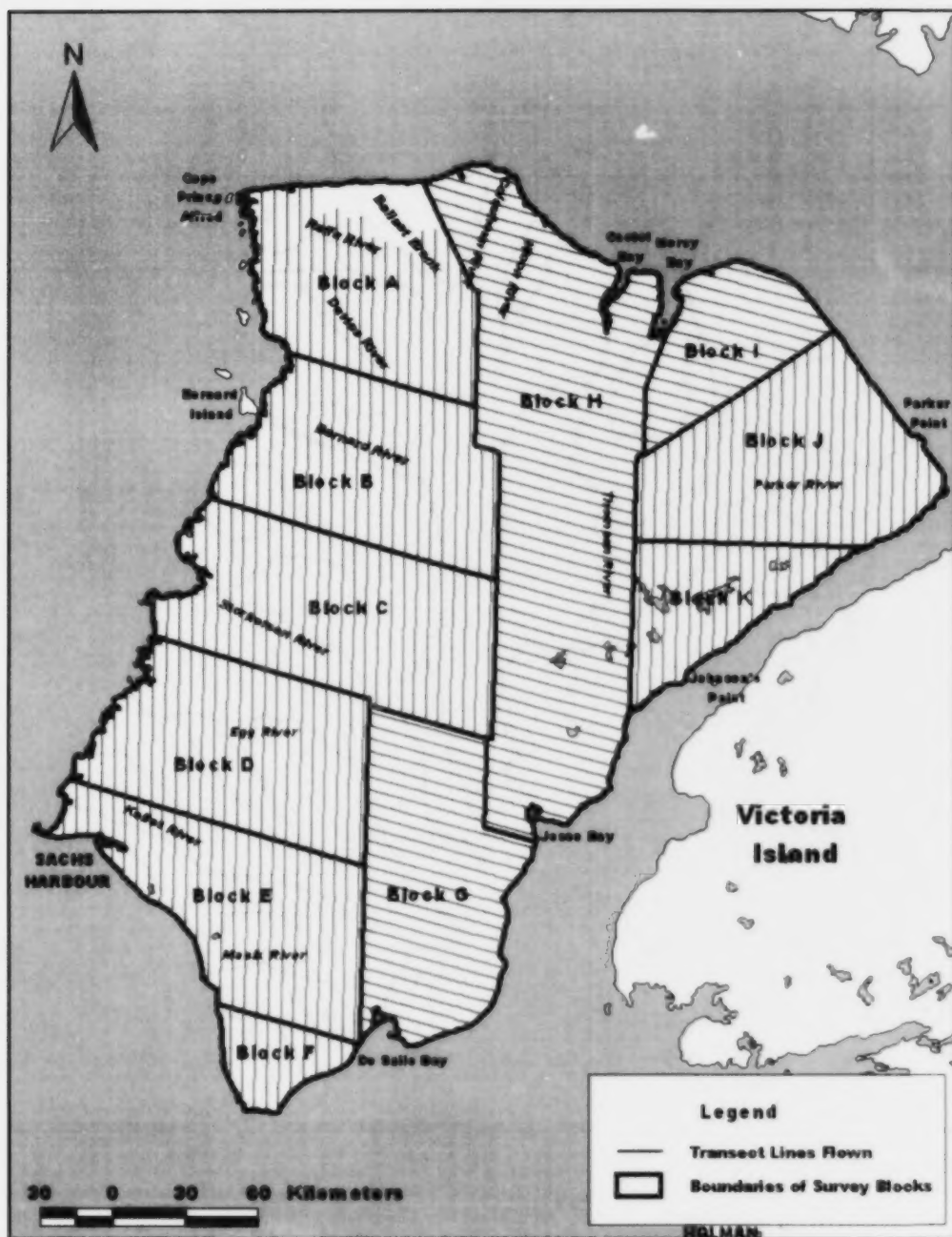


Figure 3. Distribution of survey blocks and transect lines for the July 2005 Banks Island survey as flown.

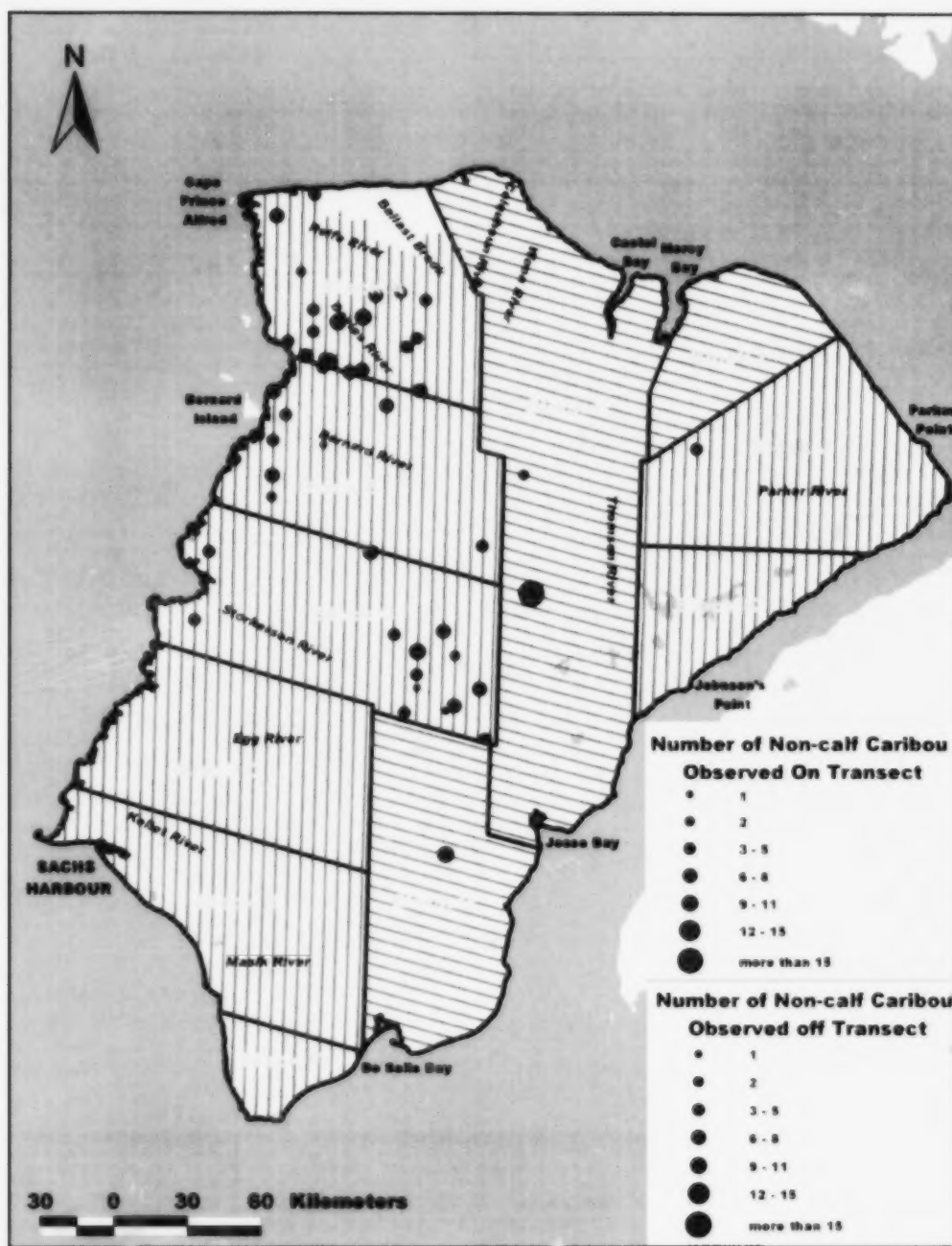


Figure 4. Distribution of non-calf caribou during the July 2005 Banks Island Peary caribou and muskox survey.

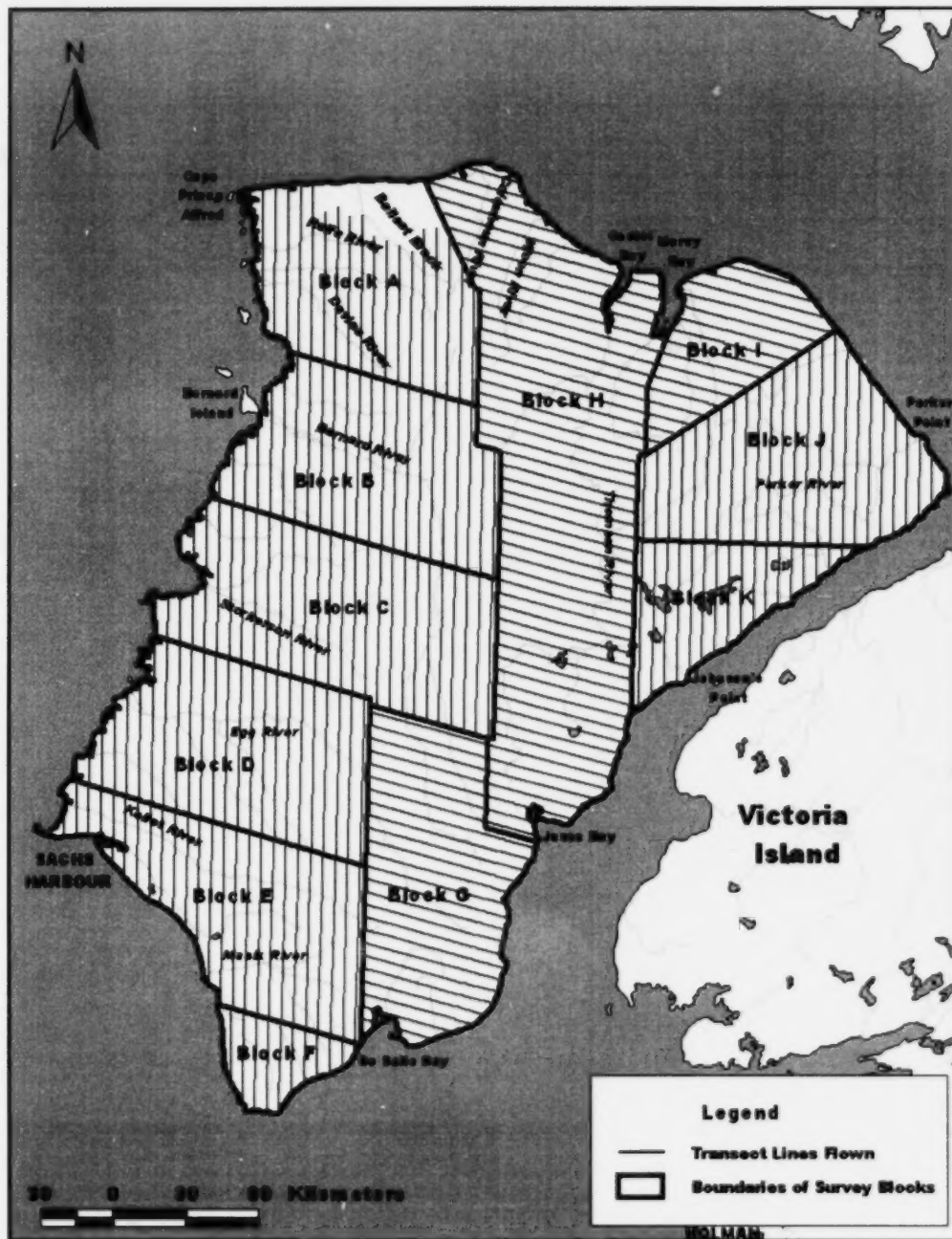


Figure 3. Distribution of survey blocks and transect lines for the July 2005 Banks Island survey as flown.

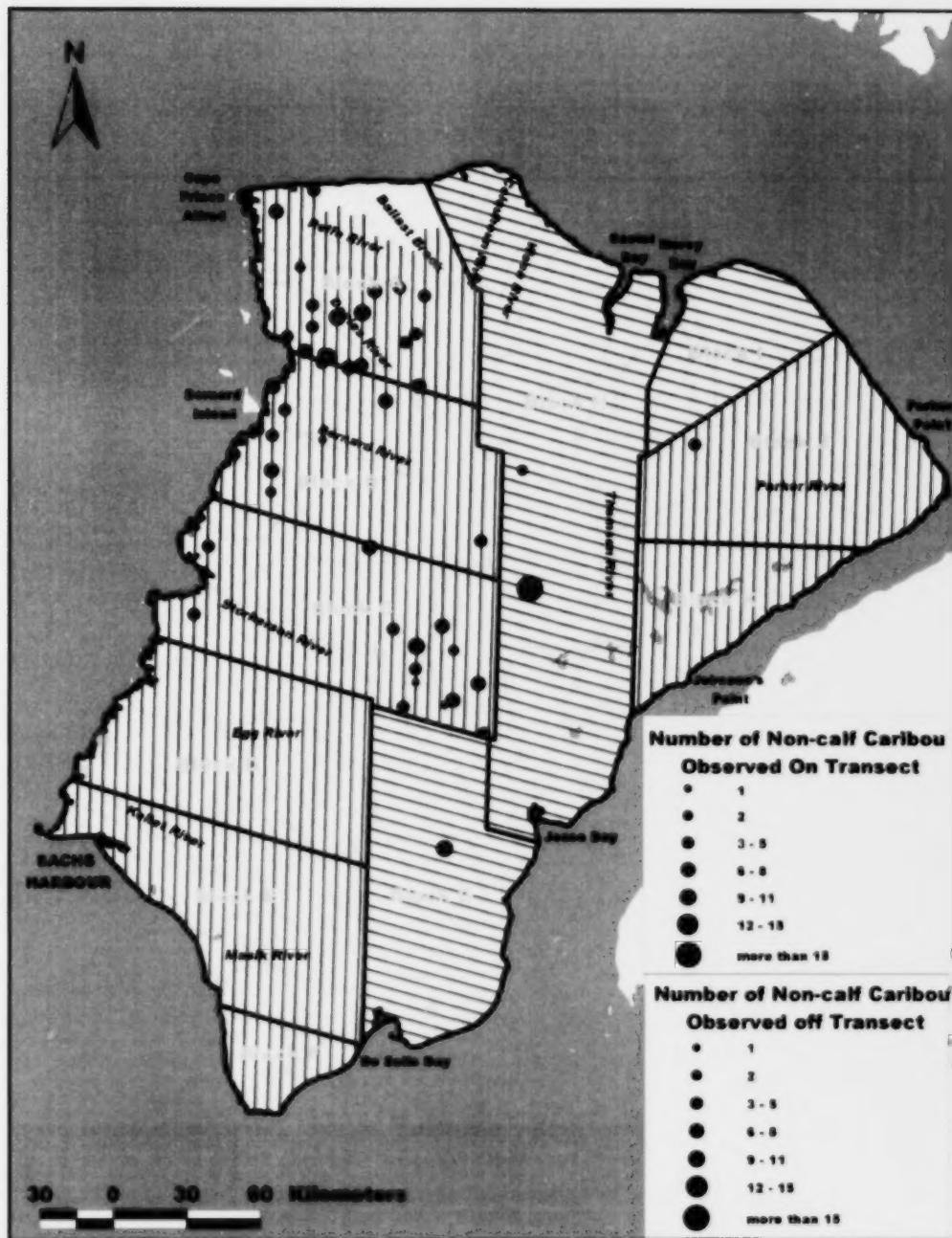


Figure 4. Distribution of non-calf caribou during the July 2005 Banks Island Peary caribou and muskox survey.

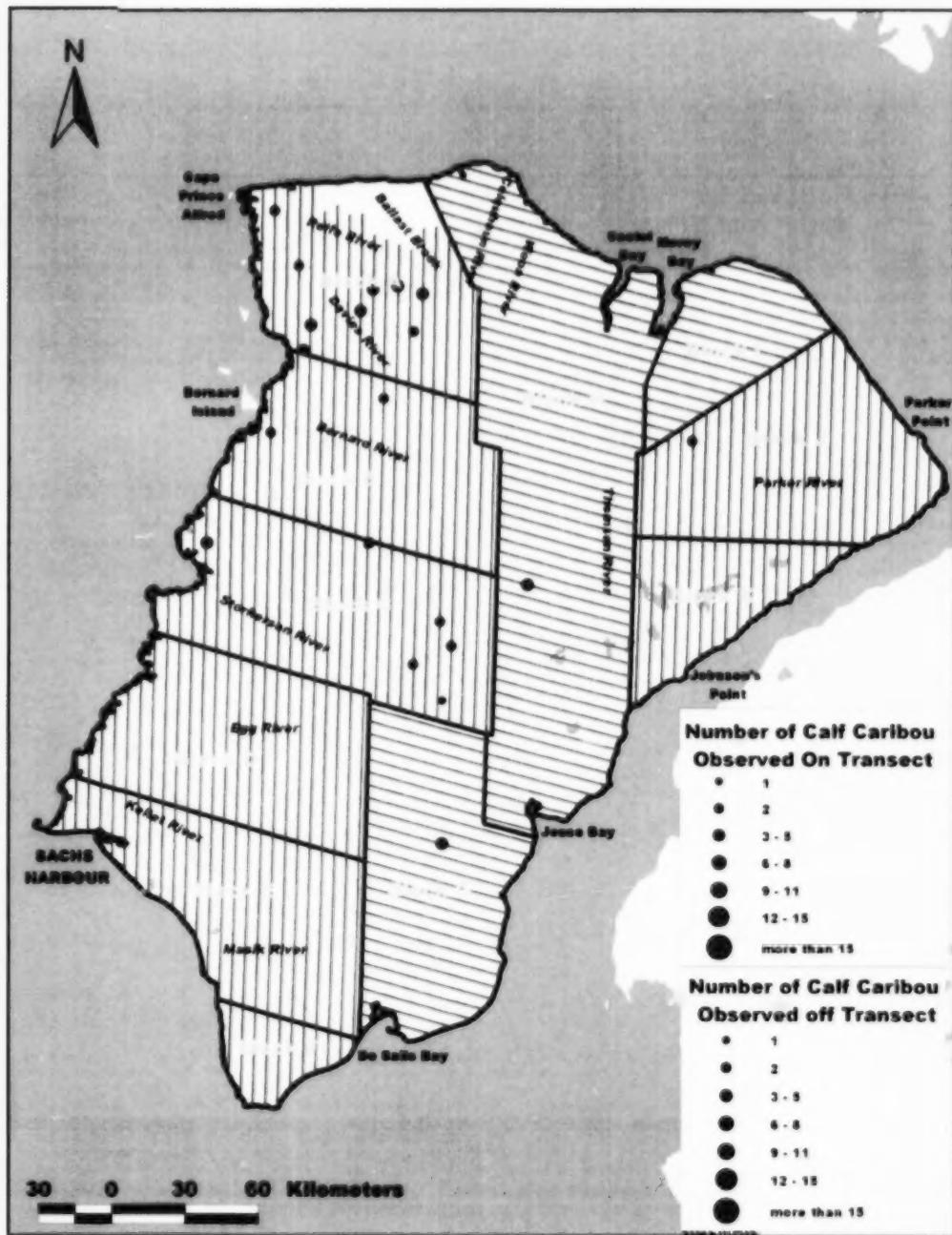


Figure 5. Distribution of calf caribou during the July 2005 Banks Island Peary caribou and muskox survey.

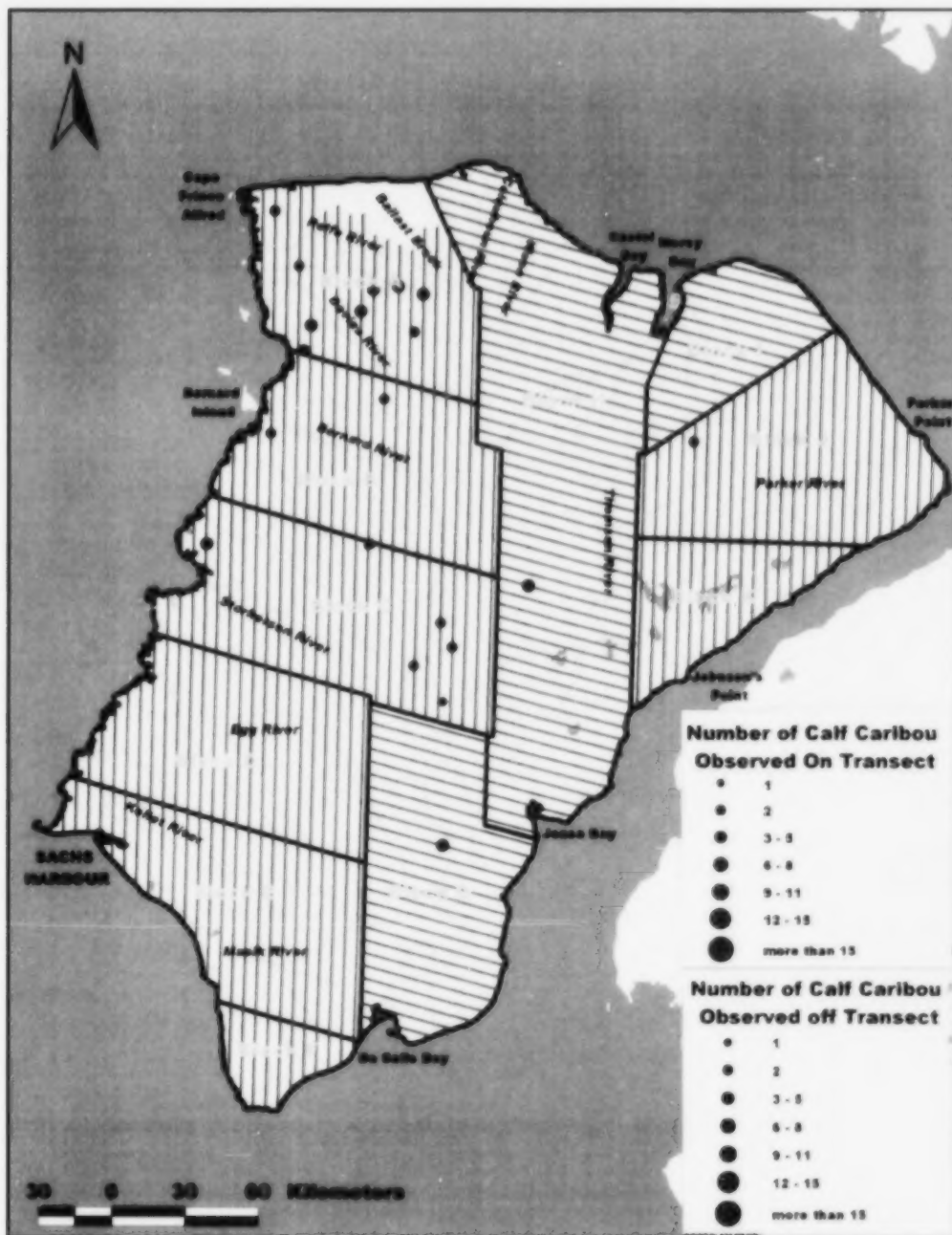


Figure 5. Distribution of calf caribou during the July 2005 Banks Island Peary caribou and muskox survey.

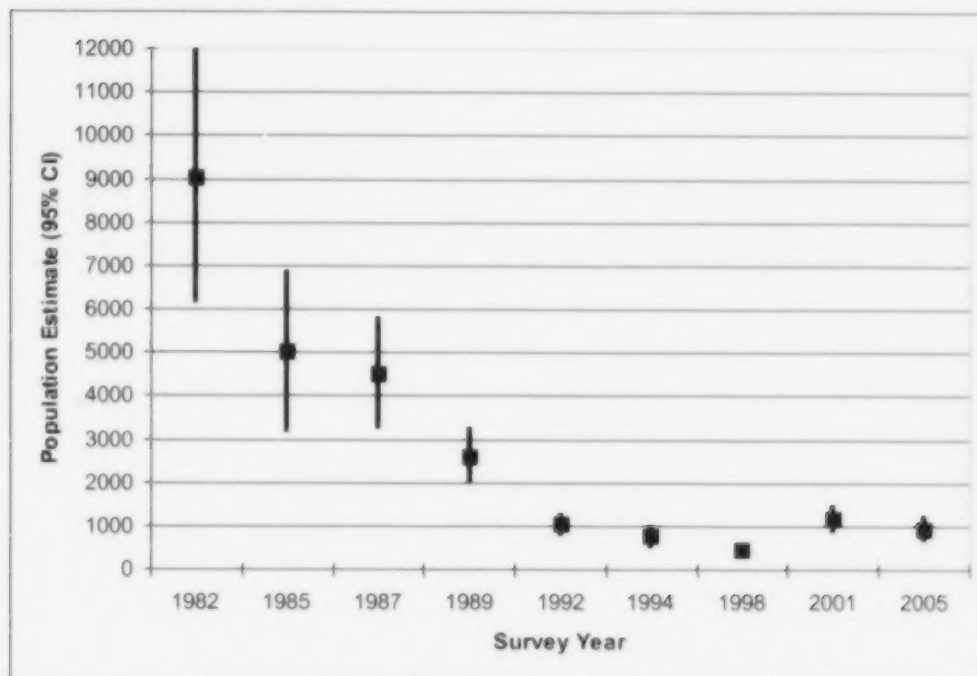


Figure 6. Population estimates with 95% CI for non-calf Peary caribou on Banks Island, NT, 1982 to 2005^A.

^A Population estimates obtained from:

- 1982 (Nagy *et al.*, 2007a)
- 1985 (McLean *et al.*, 1986)
- 1987 (McLean, 1992) Information required to calculate 95% CI was not provided. We estimated the 95% CI as $SE \times 1.96$.
- 1989 (McLean and Fraser, 1992) Information required to calculate 95% CI was not provided. We estimated the 95% CI as $SE \times 1.96$.
- 1992 (Nagy *et al.*, 2007b)
- 1994 (Nagy *et al.*, 2007c)
- 1998 (Nagy *et al.*, 2007d)
- 2001 (Nagy *et al.*, 2007e)
- 2005 (this report)

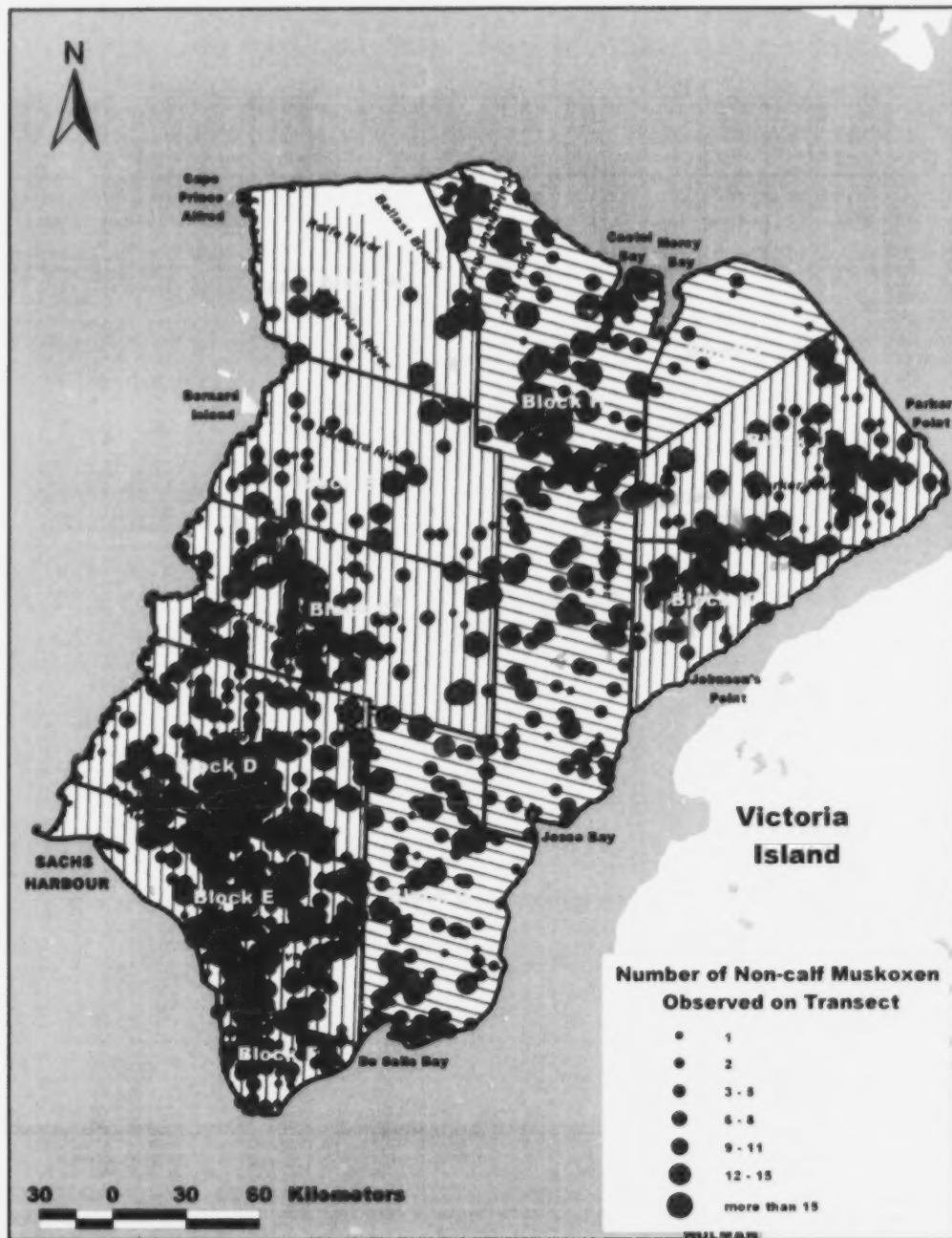


Figure 7. Distribution of non-calf muskox during the July 2005 Banks Island Peary caribou and muskox survey.

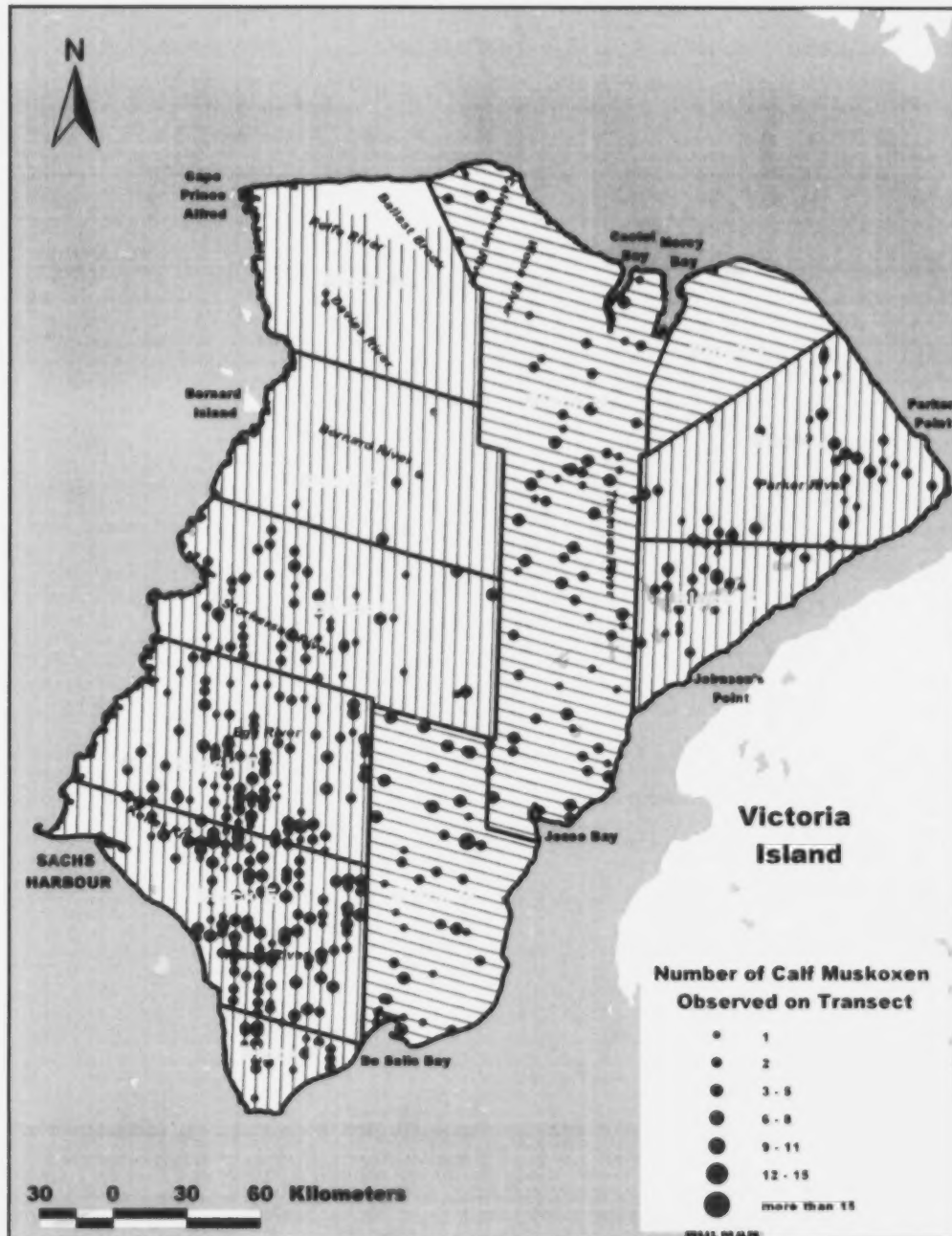


Figure 8. Distribution of calf muskox during the July 2005 Banks Island Peary caribou and muskox survey.

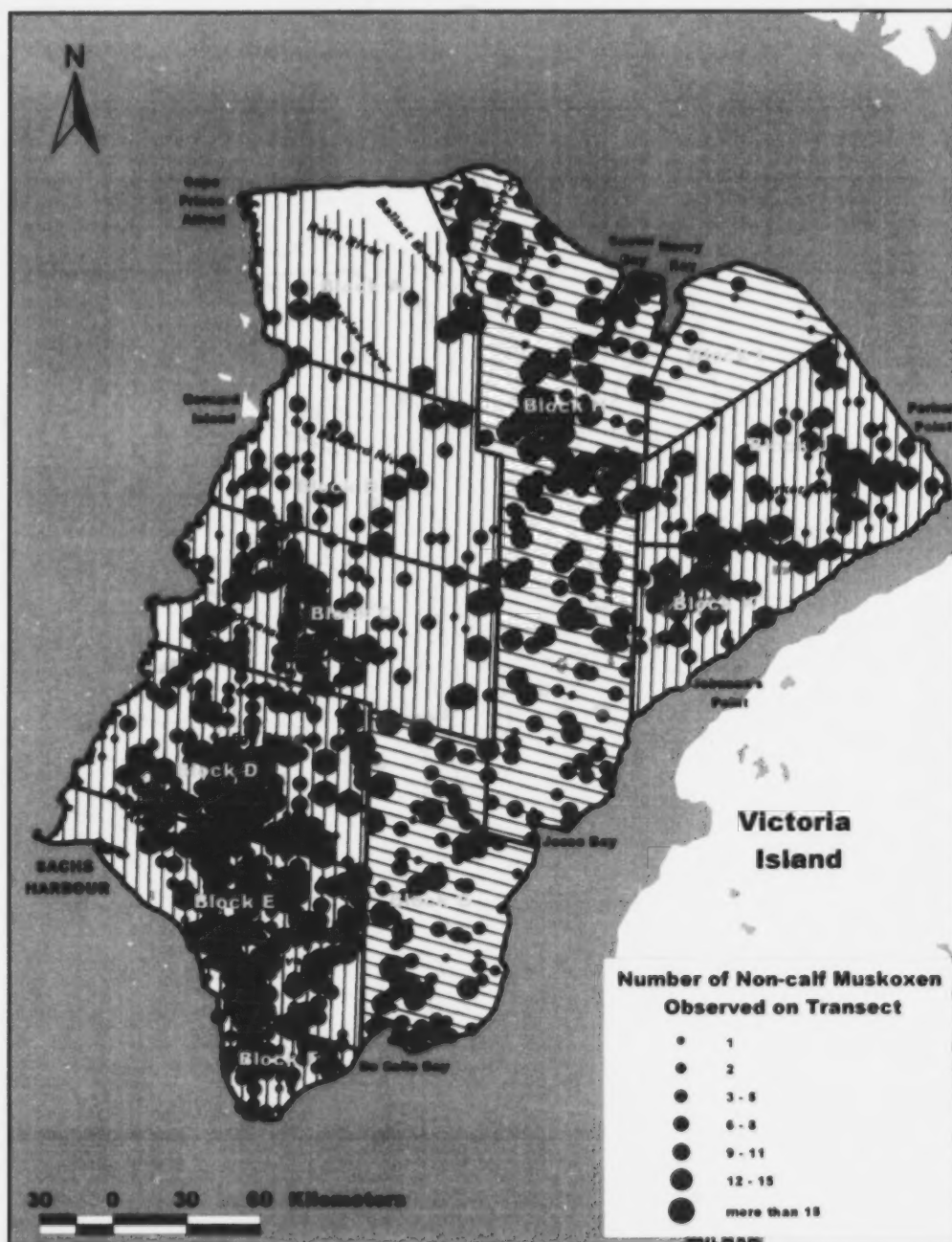


Figure 7. Distribution of non-calf muskox during the July 2005 Banks Island Peary caribou and muskox survey.

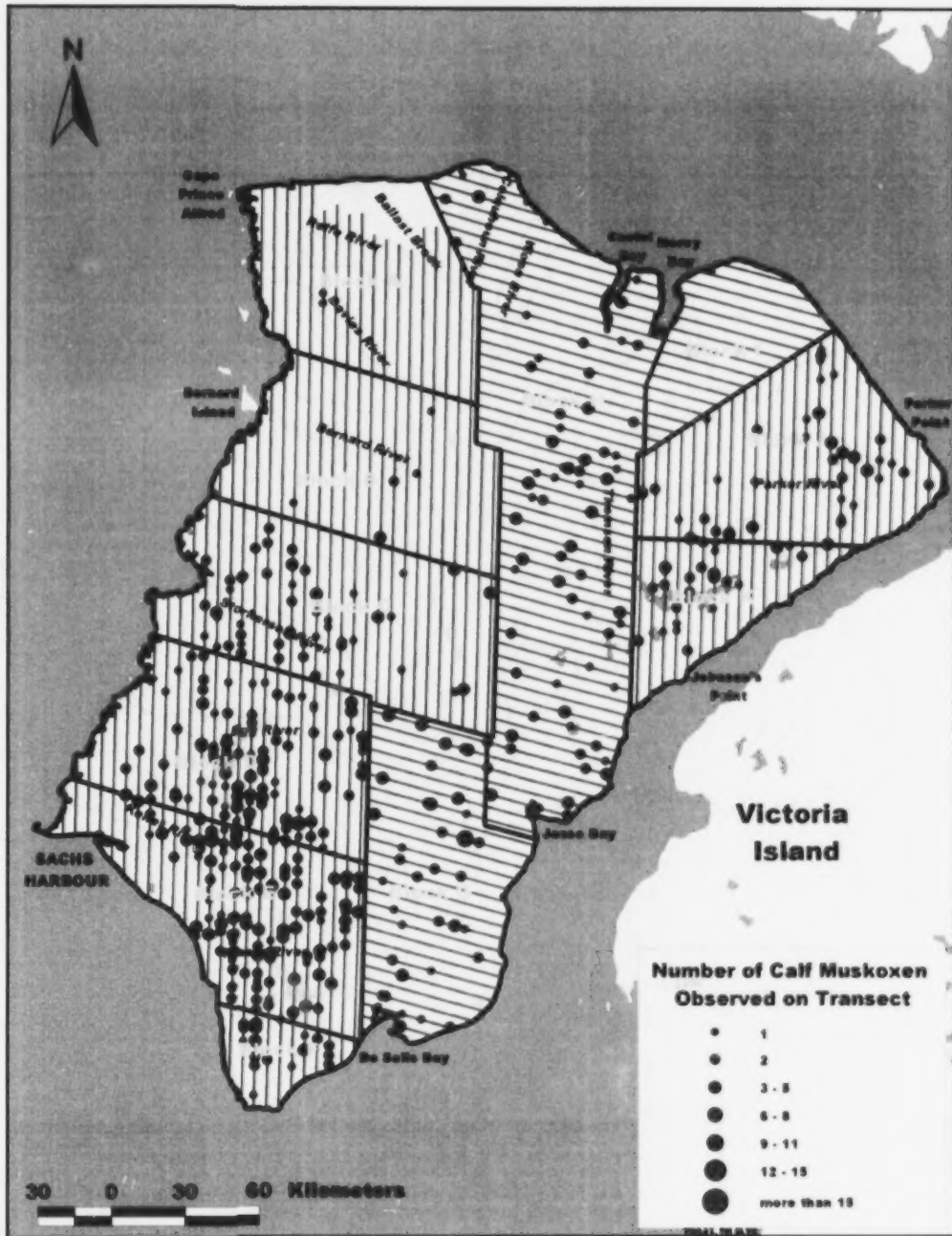


Figure 8. Distribution of calf muskox during the July 2005 Banks Island Peary caribou and muskox survey.

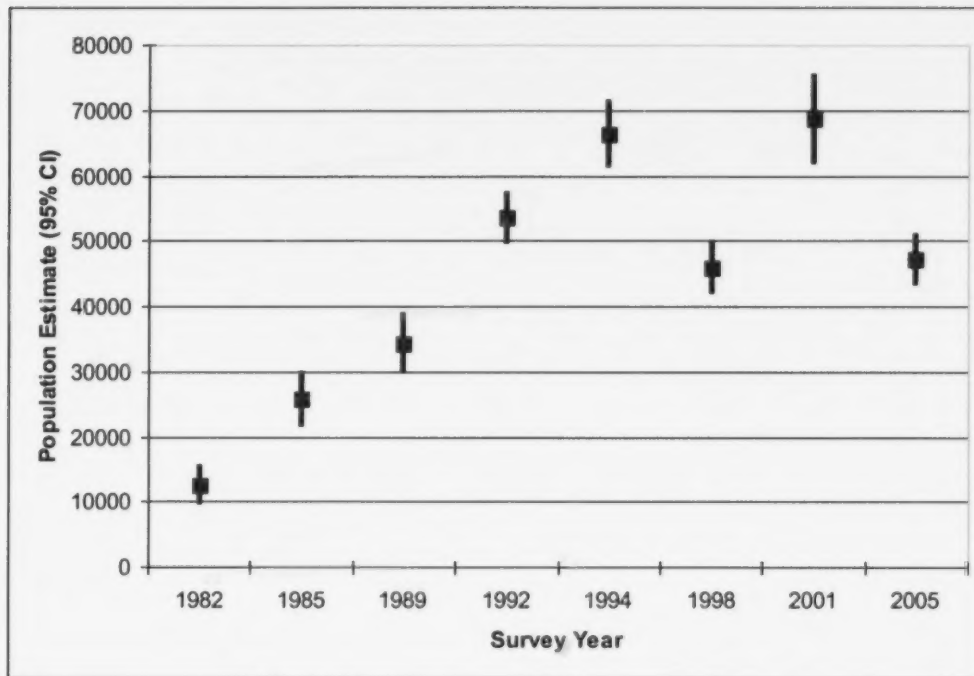


Figure 9. Population estimates with 95% CI for non-calf muskoxen on Banks Island, NT, 1982 to 2005^A.

^A Population estimates obtained from:

- 1982 (Nagy *et al.*, 2007a)
- 1985 (McLean *et al.*, 1986)
- 1987 (McLean, 1992) Information required to calculate 95% CI was not provided. We estimated the 95% CI as $SE \times 1.96$.
- 1989 (McLean and Fraser, 1992) Information required to calculate 95% CI was not provided. We estimated the 95% CI as $SE \times 1.96$.
- 1992 (Nagy *et al.*, 2007b)
- 1994 (Nagy *et al.*, 2007c)
- 1998 (Nagy *et al.*, 2007d)
- 2001 (Nagy *et al.*, 2007e)
- 2005 (this report)

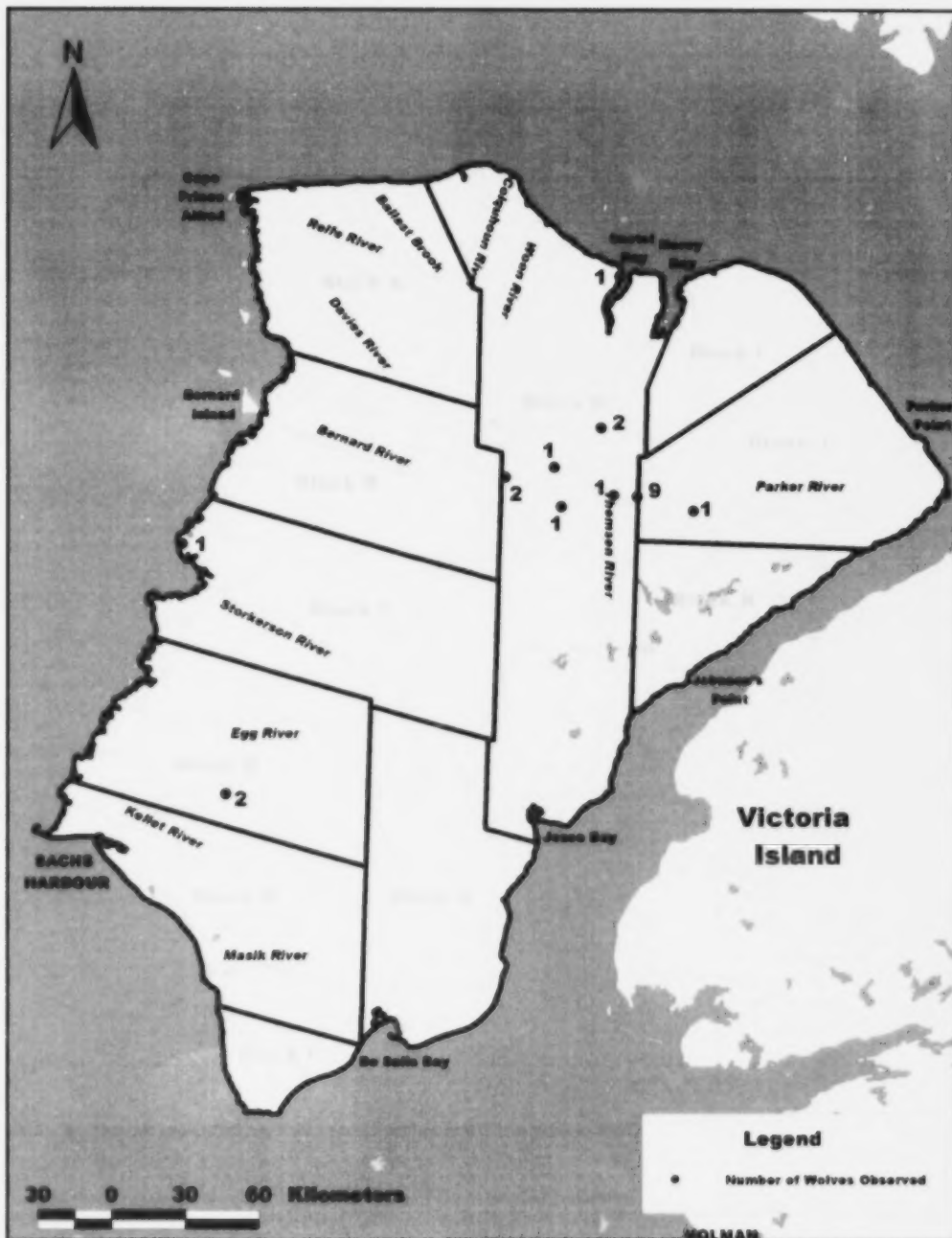


Figure 10. Distribution of wolves observed during the July 2005 Banks Island Peary caribou and muskox survey.



Figure 10. Distribution of wolves observed during the July 2005 Banks Island Peary caribou and muskox survey.

Table 1. Population estimates for Peary caribou on Banks Island, July 2005.

| Stratum | Census Area (km ²) | Number of Transects Flown | Number of Possible Transects | Density (per km ²) | Population Total | Variance of Totals | S.E. of Y | 95% Confidence Interval (±) | % of Total Area Sampled | Number On Transect | Number Off Transect | Coefficient of Variation | df |
|-------------------|--------------------------------|---------------------------|------------------------------|--------------------------------|------------------|--------------------|-----------|-----------------------------|-------------------------|--------------------|---------------------|--------------------------|----|
| Caribou: Non-calf | | | | | | | | | | | | | |
| A | 6,249 | 20 | 96.1 | 0.069 | 430 | 5243.1 | 72.4 | 152 | 17.2 | 74 | 12 | 0.168 | |
| B | 6,626 | 23 | 114.1 | 0.023 | 150 | 4392.6 | 66.3 | 137 | 20.1 | 30 | 26 | 0.443 | |
| C | 8,009 | 28 | 138.5 | 0.023 | 187 | 3649.4 | 60.4 | 124 | 19.8 | 37 | 16 | 0.323 | |
| D | 6,926 | 24 | 116.5 | 0.000 | 0 | | | | 20.1 | 0 | 0 | | |
| E | 6,603 | 27 | 126.0 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| F | 1,406 | 12 | 56.6 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| G | 6,770 | 27 | 129.5 | 0.007 | 47 | 1574.0 | 1574.0 | 82 | 19.0 | 9 | 0 | 33.284 | |
| H | 14,765 | 51 | 253.5 | 0.000 | 95 | 5130.2 | 71.6 | 144 | 19.0 | 18 | 0 | 0.754 | |
| I | 3,050 | 17 | 83.8 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| J | 6,970 | 25 | 122.8 | 0.000 | 20 | 312.7 | 17.7 | 37 | 20.0 | 4 | 2 | 0.884 | |
| K | 3,211 | 19 | 91.8 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| sum of blocks | 70,585 | 273 | 1329.2 | 0.013 | 929 | 20302.0 | 142.5 | 289 | 19.4 | 172 | 56 | 0.153 | 36 |
| Caribou: Calf | | | | | | | | | | | | | |
| A | 6249 | 20 | 96.1 | 0.022 | 139 | 1444.7 | 38.0 | 80 | 17.2 | 24 | 2 | 0.274 | |
| B | 6626 | 23 | 114.1 | 0.003 | 20 | 150.0 | 12.2 | 25 | 20.1 | 4 | 6 | 0.614 | |
| C | 8009 | 28 | 138.5 | 0.006 | 45 | 360.3 | 19.0 | 39 | 19.8 | 9 | 1 | 0.418 | |
| D | 6926 | 24 | 116.5 | 0.000 | 0 | | | | 20.1 | 0 | 0 | | |
| E | 6603 | 27 | 126 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| F | 1406 | 12 | 56.6 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| G | 6770 | 27 | 129.5 | 0.002 | 16 | 174.9 | 12.2 | 27 | 19.0 | 3 | 0 | 0.776 | |
| H | 14765 | 51 | 253.5 | 0.001 | 21 | 317.0 | 17.8 | 36 | 19.0 | 4 | 0 | 0.844 | |
| I | 3050 | 17 | 83.8 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| J | 6970 | 25 | 122.8 | 0.001 | 10 | 78.2 | 8.8 | 18 | 20.0 | 2 | 0 | 0.884 | |
| K | 3211 | 19 | 91.8 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| sum of blocks | 70585 | 273 | 1329.2 | 0.004 | 251 | 2525.0 | 50.2 | 104 | 19.4 | 46 | 9 | 0.200 | 23 |
| Caribou: Total | | | | | | | | | | | | | |
| A | 6249 | 20 | 96.1 | 0.091 | 570 | 10187.9 | 100.9 | 212 | 17.2 | 98 | 14 | 0.177 | |
| B | 6626 | 23 | 114.1 | 0.026 | 169 | 5913.6 | 76.9 | 159 | 20.1 | 34 | 32 | 0.454 | |
| C | 8009 | 28 | 138.5 | 0.029 | 232 | 5487.0 | 74.1 | 152 | 19.8 | 46 | 17 | 0.319 | |

| Stratum | Census Area (km ²) | Number of Transects Flown | Number of Possible Transects | Density (per km ²) | Population Total | Variance of Totals | S.E. of Y | 95% Confidence Interval (±) | % of Total Area Sampled | Number On Transect | Number Off Transect | Coefficient Of Variation | df |
|---------------|--------------------------------|---------------------------|------------------------------|--------------------------------|------------------|--------------------|-----------|-----------------------------|-------------------------|--------------------|---------------------|--------------------------|----|
| D | 6926 | 24 | 116.5 | 0.000 | 0 | | | | 20.1 | 0 | 0 | | |
| E | 6603 | 27 | 126 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| F | 1406 | 12 | 56.6 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| G | 6770 | 27 | 129.5 | 0.009 | 63 | 2798.2 | 52.9 | 109 | 19.0 | 12 | 0 | 0.839 | |
| H | 14765 | 51 | 253.5 | 0.008 | 116 | 7977.7 | 89.3 | 179 | 19.0 | 22 | 0 | 0.770 | |
| I | 3050 | 17 | 83.8 | 0.000 | 0 | | | | 20.2 | 0 | 0 | | |
| J | 6970 | 25 | 122.8 | 0.004 | 30 | 703.6 | 26.5 | 55 | 20.0 | 6 | 0 | 0.884 | |
| K | 3211 | 19 | 91.8 | 0.000 | 0 | | | | 19.9 | 0 | 0 | | |
| sum of blocks | 70585 | 273 | 1329.2 | 0.017 | 1180 | 33068.0 | 181.8 | 369 | 19.4 | 218 | 63 | 0.154 | 35 |

Table 2. Population estimates for muskox on Banks Island, July 2005.

| Stratum | Census Area (km ²) | Number of Transects Flown | Number of Possible Transects | Density (per km ²) | Population Total | Variance of Totals | S.E. of Y | 95% Confidence Interval (±) | % of Total Area Sampled | Number On Transect | Number Off Transect | Coefficient Of Variation | df |
|------------------|--------------------------------|---------------------------|------------------------------|--------------------------------|------------------|--------------------|-----------|-----------------------------|-------------------------|--------------------|---------------------|--------------------------|----|
| Muskox: Non-calf | | | | | | | | | | | | | |
| A | 6249 | 20 | 96.1 | 0.205 | 1279 | 9631.9 | 310.3 | 652 | 17.2 | 220 | not recorded | 0.243 | |
| B | 6626 | 23 | 114.1 | 0.242 | 1605 | 54417.7 | 233.3 | 484 | 20.1 | 322 | not recorded | 0.145 | |
| C | 8009 | 28 | 138.5 | 0.671 | 5377 | 685795.9 | 828.1 | 1699 | 19.8 | 1065 | not recorded | 0.154 | |
| D | 6926 | 24 | 116.5 | 1.195 | 8275 | 740582.3 | 860.6 | 1781 | 20.1 | 1664 | not recorded | 0.104 | |
| E | 6603 | 27 | 126 | 1.404 | 9268 | 726207.3 | 852.2 | 1752 | 20.2 | 1867 | not recorded | 0.092 | |
| F | 1406 | 12 | 56.6 | 1.241 | 1744 | 71637.9 | 267.7 | 589 | 19.9 | 347 | not recorded | 0.153 | |
| G | 6770 | 27 | 129.5 | 0.534 | 3615 | 180604.6 | 425.0 | 875 | 19.0 | 688 | not recorded | 0.118 | |
| H | 14765 | 51 | 253.5 | 0.680 | 10035 | 1092051.7 | 1045.0 | 2099 | 19.0 | 1902 | not recorded | 0.104 | |
| I | 3050 | 17 | 83.8 | 0.057 | 174 | 3226.3 | 56.8 | 120 | 20.2 | 35 | not recorded | 0.327 | |
| J | 6970 | 25 | 122.8 | 0.514 | 3581 | 198295.7 | 445.3 | 919 | 20.0 | 716 | not recorded | 0.124 | |
| K | 3211 | 19 | 91.8 | 0.703 | 2256 | 148586.3 | 385.5 | 810 | 19.9 | 448 | not recorded | 0.171 | |
| sum of blocks | 70585 | 273 | 1329.2 | 0.669 | 47209 | 3911037.5 | 1977.6 | 3997 | 19.4 | 9274 | | 0.042 | 40 |
| Muskox: Calf | | | | | | | | | | | | | |
| A | 6249 | 20 | 96.1 | 0.002 | 12 | 81.9 | 9.0 | 19 | 17.2 | 2 | not recorded | 0.779 | |
| B | 6626 | 23 | 114.1 | 0.006 | 40 | 256.9 | 16.0 | 33 | 20.1 | 8 | not recorded | 0.402 | |
| C | 8009 | 28 | 138.5 | 0.058 | 465 | 5629.2 | 75.0 | 154 | 19.8 | 92 | not recorded | 0.162 | |
| D | 6926 | 24 | 116.5 | 0.156 | 1079 | 17984.9 | 134.1 | 277 | 20.1 | 217 | not recorded | 0.124 | |
| E | 6603 | 27 | 126 | 0.206 | 1360 | 21051.8 | 145.1 | 298 | 20.2 | 274 | not recorded | 0.107 | |
| F | 1406 | 12 | 56.6 | 0.132 | 186 | 2915.2 | 54.0 | 119 | 19.9 | 37 | not recorded | 0.290 | |
| G | 6770 | 27 | 129.5 | 0.070 | 473 | 8170.6 | 90.4 | 186 | 19.0 | 90 | not recorded | 0.191 | |
| H | 14765 | 51 | 253.5 | 0.049 | 718 | 7678.3 | 87.6 | 176 | 19.0 | 136 | not recorded | 0.122 | |
| I | 3050 | 17 | 83.8 | 0.000 | 0 | | | | 20.2 | 0 | not recorded | | |
| J | 6970 | 25 | 122.8 | 0.051 | 355 | 2595.5 | 50.9 | 105 | 20.0 | 71 | not recorded | 0.143 | |
| K | 3211 | 19 | 91.8 | 0.074 | 237 | 2326.4 | 48.2 | 101 | 19.9 | 47 | not recorded | 0.204 | |
| sum of blocks | 70585 | 273 | 1329.2 | 0.070 | 4924 | 68690.6 | 262.1 | 537 | 19.4 | 974 | | 0.053 | 28 |
| Muskox: Total | | | | | | | | | | | | | |
| A | 6249 | 20 | 96.1 | 0.207 | 1290 | 98209.3 | 313.4 | 658 | 17.2 | 222 | not recorded | 0.243 | |
| B | 6626 | 23 | 114.1 | 0.248 | 1645 | 57738.0 | 240.3 | 498 | 20.1 | 330 | not recorded | 0.146 | |
| C | 8009 | 28 | 138.5 | 0.729 | 5842 | 800657.1 | 894.8 | 1836 | 19.8 | 1157 | not recorded | 0.153 | |

| Stratum | Census Area (km ²) | Number of Transects Flown | Number of Possible Transects | Density (per km ²) | Population Total | Variance of Totals | S.E. of Y | 95% Confidence Interval (±) | % of Total Area Sampled | Number On Transect | Number Off Transect | Coefficient of Variation | df |
|---------------|--------------------------------|---------------------------|------------------------------|--------------------------------|------------------|--------------------|-----------|-----------------------------|-------------------------|--------------------|---------------------|--------------------------|----|
| D | 6926 | 24 | 116.5 | 1.351 | 9354 | 961830.7 | 980.7 | 2029 | 20.1 | 1881 | not recorded | 0.105 | |
| E | 6603 | 27 | 126 | 1.610 | 10628 | 972239.5 | 986.0 | 2027 | 20.2 | 2141 | not recorded | 0.093 | |
| F | 1406 | 12 | 56.6 | 1.373 | 1930 | 97912.2 | 312.9 | 689 | 19.9 | 384 | not recorded | 0.162 | |
| G | 6770 | 27 | 129.5 | 0.604 | 4088 | 246433.8 | 496.4 | 1023 | 19.0 | 778 | not recorded | 0.121 | |
| H | 14765 | 51 | 253.5 | 0.728 | 10752 | 1188507.8 | 1090.2 | 2190 | 19.0 | 2038 | not recorded | 0.101 | |
| I | 3050 | 17 | 83.8 | 0.057 | 174 | 3226.3 | 56.8 | 120 | 20.2 | 35 | not recorded | 0.327 | |
| J | 6970 | 25 | 122.8 | 0.565 | 3936 | 238435.9 | 488.3 | 1008 | 20.0 | 787 | not recorded | 0.124 | |
| K | 3211 | 19 | 91.8 | 0.776 | 2493 | 184119.1 | 429.1 | 902 | 19.9 | 495 | not recorded | 0.172 | |
| sum of blocks | 70585 | 273 | 1329.2 | 0.739 | 52133 | 4849309.7 | 2202.1 | 4458 | 19.4 | 10248 | | 0.042 | 39 |



APPENDIX A.

Transect data for the July 2005 Banks Island caribou and muskox survey.

| Survey Block | Transect Number | Transect | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|-------------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | | Area (km ²) | | | | | | |
| A | A01 | 8.561 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A02 | 44.938 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A03 | 60.119 | 7 | 2 | 9 | 8 | 0 | 8 |
| | A04 | 63.068 | 5 | 0 | 5 | 0 | 0 | 0 |
| | A05 | 67.563 | 2 | 2 | 4 | 36 | 0 | 36 |
| | A06 | 68.996 | 11 | 4 | 15 | 0 | 0 | 0 |
| | A07 | 59.535 | 4 | 0 | 4 | 33 | 2 | 35 |
| | A08 | 63.116 | 9 | 0 | 9 | 0 | 0 | 0 |
| | A09 | 60.842 | 7 | 0 | 7 | 4 | 0 | 4 |
| | A10 | 62.622 | 9 | 3 | 12 | 0 | 0 | 0 |
| | A11 | 55.546 | 6 | 3 | 9 | 0 | 0 | 0 |
| | A12 | 55.136 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A13 | 54.622 | 9 | 7 | 16 | 0 | 0 | 0 |
| | A14 | 54.111 | 0 | 0 | 0 | 12 | 0 | 12 |
| | A15 | 64.264 | 5 | 3 | 8 | 17 | 0 | 17 |
| | A16 | 66.056 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A17 | 64.374 | 0 | 0 | 0 | 36 | 0 | 36 |
| | A18 | 55.348 | 0 | 0 | 0 | 46 | 0 | 46 |
| | A19 | 46.313 | 0 | 0 | 0 | 28 | 0 | 28 |
| | Total | 1075.130 | 74 | 24 | 98 | 220 | 2 | 222 |
| B | B01 | 13.337 | 0 | 0 | 0 | 0 | 0 | 0 |
| | B02 | 25.511 | 5 | 0 | 5 | 4 | 0 | 4 |
| | B03 | 29.741 | 0 | 0 | 0 | 7 | 0 | 7 |
| | B04 | 35.467 | 0 | 0 | 0 | 42 | 0 | 42 |
| | B05 | 52.805 | 12 | 2 | 14 | 5 | 0 | 5 |
| | B06 | 60.017 | 5 | 0 | 5 | 18 | 0 | 18 |
| | B07 | 67.319 | 0 | 0 | 0 | 27 | 1 | 28 |
| | B08 | 67.322 | 0 | 0 | 0 | 11 | 0 | 11 |
| | B09 | 67.324 | 1 | 0 | 1 | 16 | 0 | 16 |
| | B10 | 67.331 | 0 | 0 | 0 | 25 | 0 | 25 |
| | B11 | 67.343 | 0 | 0 | 0 | 6 | 0 | 6 |
| | B12 | 67.355 | 0 | 0 | 0 | 8 | 0 | 8 |
| | B13 | 67.362 | 0 | 0 | 0 | 0 | 0 | 0 |
| | B14 | 67.364 | 7 | 2 | 9 | 30 | 3 | 33 |
| | B15 | 67.366 | 0 | 0 | 0 | 17 | 2 | 19 |
| | B16 | 67.362 | 0 | 0 | 0 | 0 | 0 | 0 |
| | B17 | 67.269 | 0 | 0 | 0 | 23 | 1 | 24 |
| | B18 | 67.177 | 0 | 0 | 0 | 27 | 1 | 28 |
| | B19 | 67.086 | 0 | 0 | 0 | 12 | 0 | 12 |
| | B20 | 67.070 | 0 | 0 | 0 | 16 | 0 | 16 |
| | B21 | 67.070 | 0 | 0 | 0 | 5 | 0 | 5 |
| | B22 | 51.593 | 0 | 0 | 0 | 8 | 0 | 8 |

| Survey Block | Transect Number | Transect | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|-------------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | | Area (km ²) | | | | | | |
| | B23 | 51.598 | 0 | 0 | 0 | 15 | 0 | 15 |
| | Total | 1329.189 | 30 | 4 | 34 | 322 | 8 | 330 |
| C | C01 | 14.347 | 0 | 0 | 0 | 0 | 0 | 0 |
| | C02 | 18.658 | 0 | 0 | 0 | 0 | 0 | 0 |
| | C03 | 28.974 | 0 | 0 | 0 | 11 | 1 | 12 |
| | C04 | 39.876 | 6 | 0 | 6 | 13 | 0 | 13 |
| | C05 | 60.097 | 3 | 3 | 6 | 52 | 5 | 57 |
| | C06 | 62.143 | 0 | 0 | 0 | 51 | 5 | 56 |
| | C07 | 62.093 | 0 | 0 | 0 | 37 | 5 | 42 |
| | C08 | 62.064 | 0 | 0 | 0 | 109 | 10 | 119 |
| | C09 | 62.088 | 0 | 0 | 0 | 7 | 2 | 9 |
| | C10 | 62.101 | 0 | 0 | 0 | 51 | 6 | 57 |
| | C11 | 62.124 | 0 | 0 | 0 | 39 | 4 | 43 |
| | C12 | 62.099 | 0 | 0 | 0 | 139 | 14 | 153 |
| | C13 | 62.061 | 0 | 0 | 0 | 57 | 5 | 62 |
| | C14 | 62.025 | 0 | 0 | 0 | 141 | 9 | 150 |
| | C15 | 61.981 | 0 | 0 | 0 | 50 | 2 | 52 |
| | C16 | 61.936 | 0 | 0 | 0 | 39 | 5 | 44 |
| | C17 | 61.889 | 0 | 0 | 0 | 57 | 2 | 59 |
| | C18 | 61.842 | 0 | 0 | 0 | 37 | 1 | 38 |
| | C19 | 61.795 | 0 | 0 | 0 | 32 | 3 | 35 |
| | C20 | 61.748 | 4 | 0 | 4 | 10 | 1 | 11 |
| | C21 | 61.707 | 4 | 0 | 4 | 18 | 2 | 20 |
| | C22 | 61.754 | 4 | 2 | 6 | 0 | 0 | 0 |
| | C23 | 61.801 | 0 | 0 | 0 | 8 | 0 | 8 |
| | C24 | 61.846 | 6 | 2 | 8 | 0 | 0 | 0 |
| | C25 | 61.868 | 10 | 2 | 12 | 15 | 3 | 18 |
| | C26 | 61.832 | 0 | 0 | 0 | 22 | 4 | 26 |
| | C27 | 61.795 | 0 | 0 | 0 | 38 | 0 | 38 |
| | C28 | 61.752 | 0 | 0 | 0 | 32 | 3 | 35 |
| | Total | 1586.296 | 37 | 9 | 46 | 1065 | 92 | 1157 |
| D | D01 | 9.646 | 0 | 0 | 0 | 3 | 0 | 3 |
| | D02 | 12.384 | 0 | 0 | 0 | 0 | 0 | 0 |
| | D03 | 26.135 | 0 | 0 | 0 | 1 | 0 | 1 |
| | D04 | 38.380 | 0 | 0 | 0 | 6 | 0 | 6 |
| | D05 | 42.784 | 0 | 0 | 0 | 32 | 5 | 37 |
| | D06 | 50.983 | 0 | 0 | 0 | 44 | 2 | 46 |
| | D07 | 66.908 | 0 | 0 | 0 | 42 | 6 | 48 |
| | D08 | 67.487 | 0 | 0 | 0 | 49 | 3 | 52 |
| | D09 | 67.462 | 0 | 0 | 0 | 59 | 8 | 67 |
| | D10 | 67.439 | 0 | 0 | 0 | 47 | 3 | 50 |
| | D11 | 67.415 | 0 | 0 | 0 | 86 | 18 | 104 |
| | D12 | 67.391 | 0 | 0 | 0 | 123 | 10 | 133 |
| | D13 | 67.367 | 0 | 0 | 0 | 199 | 29 | 228 |
| | D14 | 67.342 | 0 | 0 | 0 | 119 | 18 | 137 |
| | D15 | 67.327 | 0 | 0 | 0 | 160 | 20 | 180 |

| Survey Block | Transect Number | Transect Area (km ²) | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|----------------------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | D16 | 67.312 | 0 | 0 | 0 | 107 | 17 | 124 |
| | D17 | 67.297 | 0 | 0 | 0 | 110 | 9 | 119 |
| | D18 | 67.327 | 0 | 0 | 0 | 83 | 15 | 98 |
| | D19 | 67.376 | 0 | 0 | 0 | 87 | 9 | 96 |
| | D20 | 67.423 | 0 | 0 | 0 | 82 | 11 | 93 |
| | D21 | 67.451 | 0 | 0 | 0 | 71 | 11 | 82 |
| | D22 | 67.405 | 0 | 0 | 0 | 12 | 2 | 14 |
| | D23 | 67.361 | 0 | 0 | 0 | 80 | 10 | 90 |
| | D24 | 67.316 | 0 | 0 | 0 | 62 | 11 | 73 |
| | Total | 1392.718 | 0 | 0 | 0 | 1664 | 217 | 1881 |
| E | E01 | 0.304 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E02 | 3.036 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E03 | 17.744 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E04 | 21.792 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E05 | 20.384 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E06 | 21.961 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E07 | 27.722 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E08 | 32.805 | 0 | 0 | 0 | 0 | 0 | 0 |
| | E09 | 35.904 | 0 | 0 | 0 | 7 | 3 | 10 |
| | E10 | 38.565 | 0 | 0 | 0 | 26 | 3 | 29 |
| | E11 | 39.567 | 0 | 0 | 0 | 32 | 3 | 35 |
| | E12 | 41.414 | 0 | 0 | 0 | 16 | 2 | 18 |
| | E13 | 45.560 | 0 | 0 | 0 | 54 | 4 | 58 |
| | E14 | 51.203 | 0 | 0 | 0 | 92 | 17 | 109 |
| | E15 | 64.923 | 0 | 0 | 0 | 155 | 23 | 178 |
| | E16 | 72.441 | 0 | 0 | 0 | 128 | 13 | 141 |
| | E17 | 72.452 | 0 | 0 | 0 | 175 | 34 | 209 |
| | E18 | 72.442 | 0 | 0 | 0 | 135 | 20 | 155 |
| | E19 | 72.429 | 0 | 0 | 0 | 182 | 28 | 210 |
| | E20 | 72.414 | 0 | 0 | 0 | 126 | 18 | 144 |
| | E21 | 72.353 | 0 | 0 | 0 | 118 | 23 | 141 |
| | E22 | 72.256 | 0 | 0 | 0 | 175 | 21 | 196 |
| | E23 | 72.162 | 0 | 0 | 0 | 85 | 12 | 97 |
| | E24 | 72.090 | 0 | 0 | 0 | 125 | 15 | 140 |
| | E25 | 72.090 | 0 | 0 | 0 | 55 | 9 | 64 |
| | E26 | 72.088 | 0 | 0 | 0 | 115 | 17 | 132 |
| | E27 | 72.086 | 0 | 0 | 0 | 66 | 9 | 75 |
| | Total | 1330.187 | 0 | 0 | 0 | 1867 | 274 | 2141 |
| F | F01 | 3.446 | 0 | 0 | 0 | 8 | 0 | 8 |
| | F02 | 29.061 | 0 | 0 | 0 | 22 | 0 | 22 |
| | F03 | 36.424 | 0 | 0 | 0 | 67 | 5 | 72 |
| | F04 | 38.515 | 0 | 0 | 0 | 83 | 14 | 97 |
| | F05 | 37.248 | 0 | 0 | 0 | 49 | 2 | 51 |
| | F06 | 36.294 | 0 | 0 | 0 | 18 | 1 | 19 |
| | F07 | 27.312 | 0 | 0 | 0 | 15 | 1 | 16 |
| | F08 | 21.938 | 0 | 0 | 0 | 23 | 6 | 29 |

| Survey Block | Transect Number | Transect Area (km ²) | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|----------------------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | F09 | 18.242 | 0 | 0 | 0 | 13 | 2 | 15 |
| | F10 | 15.310 | 0 | 0 | 0 | 42 | 6 | 48 |
| | F11 | 11.698 | 0 | 0 | 0 | 7 | 0 | 7 |
| | F12 | 4.222 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | 279.710 | 0 | 0 | 0 | 347 | 37 | 384 |
| G | G01 | 2.852 | 0 | 0 | 0 | 0 | 0 | 0 |
| | G02 | 19.519 | 0 | 0 | 0 | 32 | 3 | 35 |
| | G03 | 36.187 | 0 | 0 | 0 | 43 | 4 | 47 |
| | G04 | 44.101 | 0 | 0 | 0 | 37 | 4 | 41 |
| | G05 | 48.889 | 0 | 0 | 0 | 27 | 0 | 27 |
| | G06 | 52.119 | 0 | 0 | 0 | 51 | 5 | 56 |
| | G07 | 53.892 | 0 | 0 | 0 | 38 | 3 | 41 |
| | G08 | 54.939 | 0 | 0 | 0 | 11 | 0 | 11 |
| | G09 | 56.649 | 0 | 0 | 0 | 14 | 2 | 16 |
| | G10 | 54.461 | 0 | 0 | 0 | 13 | 1 | 14 |
| | G11 | 55.121 | 0 | 0 | 0 | 57 | 8 | 65 |
| | G12 | 56.082 | 0 | 0 | 0 | 4 | 0 | 4 |
| | G13 | 57.473 | 0 | 0 | 0 | 12 | 1 | 13 |
| | G14 | 55.942 | 0 | 0 | 0 | 16 | 2 | 18 |
| | G15 | 56.679 | 0 | 0 | 0 | 47 | 6 | 53 |
| | G16 | 60.389 | 0 | 0 | 0 | 8 | 1 | 9 |
| | G17 | 63.701 | 9 | 3 | 12 | 6 | 0 | 6 |
| | G18 | 66.347 | 0 | 0 | 0 | 60 | 16 | 76 |
| | G19 | 67.476 | 0 | 0 | 0 | 30 | 0 | 30 |
| | G20 | 46.499 | 0 | 0 | 0 | 48 | 7 | 55 |
| | G21 | 46.498 | 0 | 0 | 0 | 29 | 8 | 37 |
| | G22 | 46.498 | 0 | 0 | 0 | 21 | 0 | 21 |
| | G23 | 46.497 | 0 | 0 | 0 | 12 | 2 | 14 |
| | G24 | 46.497 | 0 | 0 | 0 | 0 | 0 | 0 |
| | G25 | 46.496 | 0 | 0 | 0 | 26 | 10 | 36 |
| | G26 | 46.496 | 0 | 0 | 0 | 46 | 7 | 53 |
| | Total | 1288.299 | 9 | 3 | 12 | 688 | 90 | 778 |
| H | H01 | 22.695 | 0 | 0 | 0 | 0 | 0 | 0 |
| | H02 | 33.330 | 0 | 0 | 0 | 15 | 0 | 15 |
| | H03 | 47.978 | 0 | 0 | 0 | 41 | 3 | 44 |
| | H04 | 53.321 | 0 | 0 | 0 | 45 | 2 | 47 |
| | H05 | 66.630 | 0 | 0 | 0 | 46 | 0 | 46 |
| | H06 | 86.002 | 0 | 0 | 0 | 106 | 1 | 107 |
| | H07 | 82.975 | 0 | 0 | 0 | 37 | 2 | 39 |
| | H08 | 81.103 | 0 | 0 | 0 | 37 | 3 | 40 |
| | H09 | 75.896 | 0 | 0 | 0 | 57 | 0 | 57 |
| | H10 | 72.511 | 0 | 0 | 0 | 6 | 0 | 6 |
| | H11 | 72.639 | 0 | 0 | 0 | 60 | 4 | 64 |
| | H12 | 70.797 | 0 | 0 | 0 | 32 | 2 | 34 |
| | H13 | 68.956 | 0 | 0 | 0 | 9 | 0 | 9 |
| | H14 | 67.169 | 0 | 0 | 0 | 134 | 3 | 137 |

| Survey Block | Transect Number | Transect | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|-------------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | | Area (km ²) | | | | | | |
| | H15 | 67.149 | 0 | 0 | 0 | 17 | 2 | 19 |
| | H16 | 67.144 | 0 | 0 | 0 | 7 | 0 | 7 |
| | H17 | 67.139 | 0 | 0 | 0 | 129 | 5 | 134 |
| | H18 | 67.134 | 0 | 0 | 0 | 23 | 2 | 25 |
| | H19 | 62.708 | 0 | 0 | 0 | 76 | 1 | 77 |
| | H20 | 61.896 | 0 | 0 | 0 | 161 | 8 | 169 |
| | H21 | 61.892 | 0 | 0 | 0 | 81 | 4 | 85 |
| | H22 | 51.567 | 0 | 0 | 0 | 87 | 9 | 96 |
| | H23 | 51.562 | 2 | 0 | 2 | 41 | 4 | 45 |
| | H24 | 51.558 | 0 | 0 | 0 | 43 | 3 | 46 |
| | H25 | 51.553 | 0 | 0 | 0 | 58 | 9 | 67 |
| | H26 | 51.549 | 0 | 0 | 0 | 11 | 0 | 11 |
| | H27 | 51.543 | 0 | 0 | 0 | 0 | 0 | 0 |
| | H28 | 51.538 | 0 | 0 | 0 | 52 | 6 | 58 |
| | H29 | 51.533 | 0 | 0 | 0 | 23 | 3 | 26 |
| | H30 | 51.528 | 0 | 0 | 0 | 25 | 5 | 30 |
| | H31 | 51.523 | 0 | 0 | 0 | 42 | 7 | 49 |
| | H32 | 51.518 | 16 | 4 | 20 | 7 | 2 | 9 |
| | H33 | 51.513 | 0 | 0 | 0 | 64 | 2 | 66 |
| | H34 | 51.494 | 0 | 0 | 0 | 30 | 2 | 32 |
| | H35 | 51.465 | 0 | 0 | 0 | 13 | 0 | 13 |
| | H36 | 51.439 | 0 | 0 | 0 | 32 | 2 | 34 |
| | H37 | 51.427 | 0 | 0 | 0 | 16 | 1 | 17 |
| | H38 | 51.415 | 0 | 0 | 0 | 7 | 1 | 8 |
| | H39 | 51.403 | 0 | 0 | 0 | 20 | 3 | 23 |
| | H40 | 52.693 | 0 | 0 | 0 | 19 | 0 | 19 |
| | H41 | 51.608 | 0 | 0 | 0 | 13 | 3 | 16 |
| | H42 | 51.405 | 0 | 0 | 0 | 25 | 3 | 28 |
| | H43 | 49.253 | 0 | 0 | 0 | 12 | 2 | 14 |
| | H44 | 47.944 | 0 | 0 | 0 | 32 | 6 | 38 |
| | H45 | 51.487 | 0 | 0 | 0 | 52 | 11 | 63 |
| | H46 | 50.990 | 0 | 0 | 0 | 0 | 0 | 0 |
| | H47 | 46.361 | 0 | 0 | 0 | 16 | 2 | 18 |
| | H48 | 39.838 | 0 | 0 | 0 | 11 | 3 | 14 |
| | H49 | 31.422 | 0 | 0 | 0 | 24 | 5 | 29 |
| | H50 | 20.264 | 0 | 0 | 0 | 0 | 0 | 0 |
| | H51 | 21.065 | 0 | 0 | 0 | 8 | 0 | 8 |
| | Total | 2798.522 | 18 | 4 | 22 | 1902 | 136 | 2038 |
| I | I01 | 29.865 | 0 | 0 | 0 | 0 | 0 | 0 |
| | I02 | 46.049 | 0 | 0 | 0 | 6 | 0 | 6 |
| | I03 | 58.191 | 0 | 0 | 0 | 2 | 0 | 2 |
| | I04 | 64.874 | 0 | 0 | 0 | 1 | 0 | 1 |
| | I05 | 56.707 | 0 | 0 | 0 | 0 | 0 | 0 |
| | I06 | 53.175 | 0 | 0 | 0 | 0 | 0 | 0 |
| | I07 | 49.668 | 0 | 0 | 0 | 6 | 0 | 6 |
| | I08 | 45.838 | 0 | 0 | 0 | 1 | 0 | 1 |
| | I09 | 41.950 | 0 | 0 | 0 | 5 | 0 | 5 |

| Survey Block | Transect Number | Transect | | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|-------------------------|---|-------------------|---------------|----------------|------------------|--------------|---------------|
| | | Area (km ²) | | | | | | | |
| I | I10 | 38.068 | 0 | 0 | 0 | 3 | 0 | 3 | |
| | I11 | 34.186 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | I12 | 30.250 | 0 | 0 | 0 | 11 | 0 | 11 | |
| | I13 | 24.557 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | I14 | 18.859 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | I15 | 13.161 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | I16 | 7.462 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | I17 | 1.763 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Total | 614.623 | 0 | 0 | 0 | 35 | 0 | 35 | |
| J | J01 | 9.597 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | J02 | 20.795 | 0 | 0 | 0 | 14 | 2 | 16 | |
| | J03 | 33.131 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | J04 | 40.523 | 0 | 0 | 0 | 31 | 2 | 33 | |
| | J05 | 49.653 | 0 | 0 | 0 | 10 | 1 | 11 | |
| | J06 | 58.268 | 0 | 0 | 0 | 42 | 4 | 46 | |
| | J07 | 66.341 | 0 | 0 | 0 | 31 | 4 | 35 | |
| | J08 | 73.532 | 0 | 0 | 0 | 35 | 4 | 39 | |
| | J09 | 80.296 | 0 | 0 | 0 | 69 | 9 | 78 | |
| | J10 | 86.391 | 0 | 0 | 0 | 71 | 8 | 79 | |
| | J11 | 82.888 | 0 | 0 | 0 | 66 | 9 | 75 | |
| | J12 | 79.386 | 0 | 0 | 0 | 24 | 2 | 26 | |
| | J13 | 75.884 | 0 | 0 | 0 | 3 | 0 | 3 | |
| | J14 | 72.376 | 0 | 0 | 0 | 46 | 3 | 49 | |
| | J15 | 68.867 | 0 | 0 | 0 | 12 | 0 | 12 | |
| | J16 | 65.356 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | J17 | 61.845 | 0 | 0 | 0 | 82 | 6 | 88 | |
| | J18 | 58.335 | 0 | 0 | 0 | 20 | 4 | 24 | |
| | J19 | 54.825 | 0 | 0 | 0 | 51 | 3 | 54 | |
| | J20 | 51.315 | 0 | 0 | 0 | 19 | 3 | 22 | |
| | J21 | 47.805 | 4 | 2 | 6 | 8 | 1 | 9 | |
| | J22 | 44.294 | 0 | 0 | 0 | 22 | 1 | 23 | |
| | J23 | 40.784 | 0 | 0 | 0 | 24 | 0 | 24 | |
| | J24 | 37.274 | 0 | 0 | 0 | 8 | 2 | 10 | |
| | J25 | 33.764 | 0 | 0 | 0 | 28 | 3 | 31 | |
| | Total | 1393.525 | 4 | 2 | 6 | 716 | 71 | 787 | |
| K | K01 | 0.110 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | K02 | 1.981 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | K03 | 5.842 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | K04 | 10.664 | 0 | 0 | 0 | 13 | 3 | 16 | |
| | K05 | 15.618 | 0 | 0 | 0 | 8 | 0 | 8 | |
| | K06 | 18.159 | 0 | 0 | 0 | 19 | 2 | 21 | |
| | K07 | 24.064 | 0 | 0 | 0 | 16 | 1 | 17 | |
| | K08 | 25.298 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | K09 | 29.182 | 0 | 0 | 0 | 13 | 0 | 13 | |
| | K10 | 32.291 | 0 | 0 | 0 | 12 | 0 | 12 | |
| | K11 | 37.806 | 0 | 0 | 0 | 13 | 1 | 14 | |

| Survey Block | Transect Number | Transect | | Caribou: Non-calf | Caribou: Calf | Caribou: Total | Muskox: Non-calf | Muskox: Calf | Muskox: Total |
|--------------|-----------------|----------|--------------------|-------------------|---------------|----------------|------------------|--------------|---------------|
| | | Area | (km ²) | | | | | | |
| | K12 | 41.853 | | 0 | 0 | 0 | 16 | 2 | 18 |
| | K13 | 44.987 | | 0 | 0 | 0 | 94 | 9 | 103 |
| | K14 | 48.395 | | 0 | 0 | 0 | 48 | 4 | 52 |
| | K15 | 52.494 | | 0 | 0 | 0 | 59 | 10 | 69 |
| | K16 | 57.509 | | 0 | 0 | 0 | 31 | 4 | 35 |
| | K17 | 59.448 | | 0 | 0 | 0 | 66 | 7 | 73 |
| | K18 | 63.726 | | 0 | 0 | 0 | 21 | 2 | 23 |
| | K19 | 68.224 | | 0 | 0 | 0 | 19 | 2 | 21 |
| | Total | 637.651 | | 0 | 0 | 0 | 448 | 47 | 495 |

